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FOUNDED BY JOHN D. ROCKEFELLER

ANNOUNCEMENTS

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THE MEDICAL SCHOOLS

1926-27

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CALENDAR FOR THE YEAR 1926-27

1926

June 12	Saturday	Alumni Day
June 13	Sunday	Convocation Sunday
June 14	Monday	College Day
June 14	Monday	Examinations for the Spring Quarter
June 15	Tuesday	
June 15	Tuesday	Summer Convocation
June 16	Wednesday	Examinations for the Spring Quarter Spring Quarter ends
June 19	Saturday	Registration for the Summer Quarter
June 21	*Monday*	*Summer Quarter begins*
June 21–26		Examinations of the College Entrance Examination Board
July 5	Monday	Celebration of Independence Day: a holiday
July 17	Saturday	Special Examinations for removal of deficiencies (work reported conditioned or incomplete) incurred during the last quarter of residence
July 27	Tuesday	Examinations for the First Term of the Summer Quarter
July 28	Wednesday	
July 28	Wednesday	First Term of the Summer Quarter ends
July 29	Thursday	Second Term of the Summer Quarter begins
Aug. 29	Sunday	Convocation Sunday
Sept. 2	Thursday	Examinations for the Second Term of the Summer Quarter
Sept. 3	Friday	
Sept. 3	Friday	Autumn Convocation Summer Quarter ends
Sept. 6–10		Examinations for Admission
Sept. 27–Oct. 3		Freshman Week
Sept. 30	Thursday	Registration for the Autumn Quarter of returning undergraduate students
Oct. 1	*Friday*	*Autumn Quarter begins*
Oct. 1	Friday	Registration for the Autumn Quarter in all schools and colleges
Oct. 2	Saturday	
Oct. 4	Monday	All classes meet
Oct. 9	Saturday	Special Examinations for all students returning for the Autumn Quarter who incurred deficiencies (work reported conditioned or incomplete) in the last quarter of residence
Nov. 25	Thursday	Thanksgiving Day: a holiday
Dec. 19	Sunday	Convocation Sunday
Dec. 21	Tuesday	Winter Convocation
Dec. 21	Tuesday	Examinations for the Autumn Quarter
Dec. 22	Wednesday	
Dec. 23	Thursday	
Dec. 23	Thursday	Autumn Quarter ends

1927

Jan. 3	*Monday*	*Winter Quarter begins*
Jan. 29	Saturday	Special Examinations for removal of deficiencies (work reported conditioned or incomplete) incurred during the last quarter of residence
Feb. 12	Saturday	Lincoln's Birthday: a holiday
Feb. 22	Tuesday	Washington's Birthday: a holiday
Mar. 13	Sunday	Convocation Sunday
Mar. 15	Tuesday	Spring Convocation
Mar. 16	Wednesday	Examinations for the Winter Quarter
Mar. 17	Thursday	
Mar. 18	Friday	
Mar. 18	Friday	Winter Quarter ends
Mar. 19–27		Quarterly Recess
Mar. 28	*Monday*	*Spring Quarter begins*
April 23	Saturday	Special Examinations for removal of deficiencies (work reported conditioned or incomplete) incurred during the last quarter of residence
May 5	Thursday	Annual Conference with Co-operating Schools
May 6	Friday	
May 30	Monday	Memorial Day: a holiday
June 11	Saturday	Alumni Day
June 12	Sunday	Convocation Sunday
June 13	Monday	College Day
June 13	Monday	Examinations for the Spring Quarter
June 14	Tuesday	
June 14	Tuesday	Summer Convocation
June 15	Wednesday	Examinations for the Spring Quarter Spring Quarter ends

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GENERAL INFORMATION

The Medical Schools of the University include (1) The Graduate School of Medicine of the Ogden Graduate School of Science, (2) Rush Medical College, and (3) The Rush Post-Graduate School of Medicine.

The Graduate School of Medicine of the Ogden Graduate School of Science was organized in 1924. Its purpose is to serve the Medical Sciences by research and teaching. It is a part of the Ogden Graduate School of Science and its work is done on the University Quadrangles in close contact with that of other departments of this school —Physics, Chemistry, Biology, etc. Departments devoted to the pre-clinical sciences were provided for when the University was founded, and established shortly thereafter. Their primary purposes were the development of the sciences and the training of scientists. Since 1899 they have included among the courses offered all those required in the first two years of work leading to the degree of Doctor of Medicine as well as those leading to the degrees of Bachelor of Science, Master of Science, and Doctor of Philosophy.

With the definite organization of the Medical School there are being added on the Quadrangles clinics and departments devoted to the clinical medical sciences also incorporated within the Ogden Graduate School of Science and with the same general character and purpose. The work of these departments will lead to the degrees of Doctor of Medicine, Master of Science, and Doctor of Philosophy.

At present candidates for the degree of Doctor of Medicine do the work of the first two years in the Graduate School of Medicine of the Ogden Graduate School of Science of the University on the Quadrangles. They do the work of the third and fourth years in Rush Medical College at 1758 West Harrison Street. The interne year may be taken in any hospital approved by the Committee on Fifth Year of Rush Medical College.

I. THE GRADUATE SCHOOL OF MEDICINE OF THE OGDEN GRADUATE SCHOOL OF SCIENCE

OFFICERS OF ADMINISTRATION

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HENRY GORDON GALE, Dean of the Ogden Graduate School of Science.
BASIL COLEMAN HYATT HARVEY, Dean of Medical Students.
WALTER A. PAYNE, University Recorder and Examiner.
EDITH FOSTER FLINT, Chairman of the Women's Council.
RALPH BERGER SEEM, Director of Hospitals.

OFFICERS OF INSTRUCTION

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FRED CONRAD KOCH, PH.D., Professor of Physiological Chemistry.
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RALPH STAYNER LILLIE, PH.D., Professor of Physiology.
ARNO BENEDICT LUCKHARDT, PH.D., M.D., Professor of Physiology.
ALEXANDER A. MAXIMOW, M.D., Professor of Anatomy.
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DALLAS BURTON PHEMISTER, M.D., Professor of Surgery.
HARRY GIDEON WELLS, A.M., PH.D., Professor and Chairman of the Department of Pathology; Director of the Otho S. A. Sprague Memorial Institute.

GEORGE WILLIAM BARTELMEZ, PH.D., Associate Professor of Anatomy.
GEORGE MORRIS CURTIS, PH.D., M.D., Associate Professor of Surgery.
LESTER REYNOLD DRAGSTEDT, PH.D., M.D., Associate Professor of Surgery.
LYDIA M. DEWITT, A.M., M.D., Associate Professor Emeritus of Pathology (Sprague Institute).
ISIDORE SYDNEY FALK, PH.D., Associate Professor of Bacteriology.
KARL KONRAD KOESSLER, M.D., PH.D., Associate Professor of Experimental Medicine (Sprague Institute).
DAVID JUDSON LINGLE, PH.D., Associate Professor Emeritus of Physiology.
ESMOND RAY LONG, PH.D., Associate Professor of Pathology.

Carl Richard Moore, Ph.D., Associate Professor of Zoölogy.
John Foote Norton, Ph.D., Associate Professor of Bacteriology.
Dudley Billings Reed, A.B., M.D., Associate Professor of Physical Culture and Medical Examiner (Men).
William Hay Taliaferro, Ph.D., Associate Professor of Parasitology.
Arthur Lawrie Tatum, Ph.D., M.D., Associate Professor of Pharmacology.

Paul Roberts Cannon, Ph.D., Assistant Professor of Pathology.
Martin Edward Hanke, Ph.D., Assistant Professor of Physiological Chemistry.
Milton Theodore Hanke, S.B., Ph.D., Assistant Professor of Pathology (Sprague Institute).
Nathaniel Kleitman, Ph.D., Assistant Professor of Physiology.
Louis Leiter, M.D., Ph.D., Assistant Professor of Medicine.
Julian Herman Lewis, A.M., Ph.D., Assistant Professor of Pathology (Sprague Institute).
Charles Philip Miller, Jr., S.M., M.D., Assistant Professor of Medicine.
Maud Slye, A.B., Assistant Professor of Pathology (Sprague Institute).
Charles Henry Swift, M.D., Ph.D., Assistant Professor of Anatomy.
Chester Montague Van Allen, A.B., M.D., Assistant Professor of Surgery.
Harry Benjamin Van Dyke, Ph.D., M.D., Assistant Professor of Pharmacology.
William Ernest Cary, M.D., Ph.D., Research Assistant Professor under the Douglas Smith Foundation.

Sara Elizabeth Branham, Ph.D., Instructor in Bacteriology.
Gail Monroe Dack, S.B., Instructor in Bacteriology.
Patrick Arthur Delaney, Ph.D., Instructor in Anatomy.
Theophil Paul Grauer, S.B., Instructor in Anatomy.
Moses Abraham Jacobson, M.S.A., Extension Instructor in Bacteriology.
Lloyd B. Jensen, S.M., Instructor in Bacteriology.
Theodore Koppanyi, Ph.D., Instructor in Physiology.
Rosemary Loughlin, A.B., S.M., Instructor in Pathology (Sprague Institute).
Siegfried Maurer, S.B., M.D., Instructor in Pathology (Sprague Institute).
Tell Nelson, M.D., Instructor in Pathology (Sprague Institute).
Ida Kraus-Ragins, Ph.D., Instructor in Physiological Chemistry.
John C. Rogers, S.B., Instructor in Preventive Medicine.
Florence Barbara Seibert, Ph.D., Instructor in Pathology (Sprague Institute).
Mary S. Sheppard, S.M., Instructor in Pathology (Sprague Institute).
Marie Agnes Hinrichs, Ph.D., National Research Fellow in General Physiology.
Frances Coventry, Sc.D., Research Instructor under the Douglas Smith Foundation.

Kenneth Heath Collins, S.B., Associate in Pharmacology.
George Earle Wakerlin, S.M., Associate in Physiology.
Edmund Jacobson, Ph.D., Research Associate in Physiology.
Margarete Meta Kunde, Ph.D., Research Associate in Physiology.
Lucy Graves Taliaferro, Sc.D., Research Associate in Parasitology.

Eleanor K. Chambers, A.M., Assistant in Pathology (Sprague Institute).
James Conrad Ellis, S.B., Assistant in Pharmacology.

Edith Farrar, A.B., Assistant in Pathology (Sprague Institute).
George Frederick Harsh, A.B., Assistant in Physiological Chemistry.
Oscar Maruin Helmer, S.M., Assistant in Physiological Chemistry.
Harold G. O. Holck, S.B., Assistant in Physiology.
Eleanor Mary Humphreys, A.B., Assistant in Pathology.
Kathryn Knowlton, S.M., Assistant in Physiological Chemistry.
Lucile Robey, A.B., Assistant in Bacteriology.
Felix Wadsworth Saunders, S.B., Assistant in Physiological Chemistry.
Erma Smith, A.B., S.B., Assistant in Physiology.
Nell Stewart, S.B., Assistant in Physiology.
Joseph Adolph Tuta, S.M., Assistant in Physiological Chemistry.
Adah Elisabeth Verder, S.B., Assistant in Bacteriology.
Parke Harold Woodward, A.B., Assistant in Pathology.
Caroline May Bensley, S.B., Research Assistant in Anatomy.
George Cleveland Turner, S.B., M.D., Assistant in Pharmacology.

FELLOWS, 1926–27

Earl Carey, M.D., Seymour Coman Fellow in Anatomy.
Lois Amelia Day, A.B., Bacteriology.
Irene Jarra, A.B., Bacteriology.
Thurston Leon Johnson, A.M., Bacteriology (Evaporated Milk Association Fellow).
John Austin Moran, S.M., Bacteriology (Lowenstein Fellow).
Lemuel Clyde McGee, A.B., Physiological Chemistry (E. R. Squibb Fellow).
Walter Lincoln Palmer, M.D., Physiology (Seymour Coman Fellow).
Eugene Updyke Still, S.B., (Fleischmann Fellow in Physiological Chemistry).
Donald Wright Thorup, A.B., Physiology (Fleischmann Fellow).
Winston Harris Tucker, A.B., Bacteriology.

II. RUSH MEDICAL COLLEGE

Rush Medical College is devoted to the clinical medical sciences. This college is situated on the West Side of Chicago in connection with the Presbyterian Hospital, the medical service of which is supplied by the College Faculty. Among the courses offered are all those of the third and fourth years required for the degree of Doctor of Medicine as well as elective courses in all departments.

HISTORY

Rush Medical College was chartered by a special act of the legislature of the state of Illinois in February, 1837. It was founded by the late Daniel Brainerd, who was its first president. The first course of lectures was delivered in the second story of a frame building on Clark Street, near Randolph, in 1843. In 1844 a college building was erected at the corner of Dearborn Avenue and Indiana Street (now Grand Avenue). In 1867 a larger building was erected on the site of the old one. This edifice was destroyed in the great fire of 1871 and for three years the College occupied a temporary amphitheater on the ground of the Cook County Hospital, then located at Arnold and Eighteenth streets. In 1875 a Clinical Building was erected at the corner of Wood and Harrison streets, and in 1893 a Laboratory Building was erected on the south side of

Harrison Street, opposite the Clinical Building. The Senn Building, adjoining the Clinical Building on the east, was erected in 1903. In 1887 the College became the medical department of Lake Forest University, retaining, however, its autonomy. This relation was dissolved by mutual consent in April, 1898, and in the same month affiliation with the University of Chicago was established. In 1883 the Presbyterian Hospital, adjoining the College, was established in affiliation with Rush Medical College. In 1908 an affiliation was entered into with the Children's Memorial Hospital similar to that obtaining with the Presbyterian Hospital. This was transferred in 1919 to the University of Chicago. In 1911 a similar affiliation was entered into with the Home for Destitute Crippled Children, and in 1915 with the Country Home for Convalescent Children.

In May, 1924, a new contract was executed between the corporation of Rush Medical College and the University of Chicago in accordance with which the affiliation of 1898 was superseded and the University took over the work of Rush Medical College as a department of the University. This contract went into effect June 16, 1924. The old clinical building was removed in 1924, and has been replaced by the Rawson Clinical Laboratory and the Norman Bridge Laboratories of Pathology.

OFFICERS OF ADMINISTRATION

Max Mason, President of the University.
Harry Pratt Judson, President Emeritus of the University.
Frederic Campbell Woodward, Vice-President and Dean of Faculties.
Ernest Edward Irons, Dean of Rush Medical College.
Walter A. Payne, University Recorder and Examiner.
James H. Harper, Registrar of Rush Medical College.
Catherine A. McAuliff, Librarian of Rush Medical College.

OFFICERS OF INSTRUCTION

Frank Billings, Sc.D., M.D., Professor Emeritus of Medicine.
John Clarence Webster, M.D., F.R.C.P., Sc.D., LL.D., Professor Emeritus of Obstetrics and Gynecology.
Arthur Dean Bevan, A.M., M.D., Clinical Professor and Chairman of the Department of Surgery.
John Milton Dodson, A.M., M.D., Professor Emeritus of Medicine.
Ludvig Hektoen, M.D., Sc.D., LL.D., Professor of Pathology.
James Bryan Herrick, A.M., M.D., Clinical Professor and Chairman of the Department of Medicine.
William Hamlin Wilder, A.M., M.D., Professor Emeritus of Ophthalmology.
Edwin Raymond LeCount, M.D., Professor and Chairman of the Department of Pathology.
William Thomas Belfield, M.D., Professor Emeritus of Surgery (Genito-urinary).
Thor Rothstein, M.D., Clinical Professor of Neurology.
Oliver Samuel Ormsby, M.D., Clinical Professor and Chairman of the Department of Dermatology.
Theodore Tieken, Ph.B., M.D., Clinical Professor of Medicine.
George Elmer Shambaugh, Ph.B., M.D., Clinical Professor and Chairman of the Department of Laryngology and Otology.

George Howitt Weaver, M.D., Professor of Pathology.
Joseph Leggett Miller, M.D., Clinical Professor of Medicine.
Samuel Robert Slaymaker, A.B., M.D., Clinical Professor of Medicine.
Joseph Almarin Capps, A.M., M.D., Clinical Professor of Medicine.
Peter Bassoe, M.D., Clinical Professor of Neurology.
Wilber E. Post, M.D., Clinical Professor of Medicine.
Ernest Edward Irons, M.D., Ph.D., Clinical Professor of Medicine, Dean of Rush Medical College.
Rollin Turner Woodyatt, M.D., Clinical Professor of Medicine.
Ralph Crissman Brown, M.D., Clinical Professor of Medicine.
Clifford Grosselle Grulee, A.M., M.D., LL.D., Clinical Professor and Chairman of the Department of Pediatrics.
Noble Sproat Heaney, M.D., Clinical Professor and Chairman of the Department of Obstetrics and Gynecology.
Dallas B. Phemister, M.D., Clinical Professor of Surgery.
Ralph Waldo Webster, M.D., Ph.D., Clinical Professor of Medicine (Medical Jurisprudence).
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Sydney Kuh, M.D., Clinical Professor of Neurology.
James Cornelius Gill, M.D., Clinical Professor of Neurology.
George Washington Hall, A.M., M.D., Clinical Professor of Neurology.
Edward Vail L. Brown, M.D., Clinical Professor and Chairman of the Department of Ophthamology.

Rudolph Wieser Holmes, M.D., Associate Clinical Professor of Obstetrics and Gynecology.
Bird McPherson Linnell, A.B., M.D., Associate Clinical Professor of Medicine.
Bernard Fantus, S.M., M.D., Associate Clinical Professor of Medicine (Therapeutics).
Ernest Lewis McEwen, S.M., M.D., Associate Clinical Professor of Dermatology.
Charles Aubrey Parker, M.D., Associate Clinical Professor of Surgery (Orthopedic).
John Bernard Ellis, M.D., Associate Clinical Professor of Ophthalmology.
Carl Braden Davis, S.B., M.D., Associate Clinical Professor of Surgery.
Archibald Hoyne, M.D., Associate Clinical Professor of Pediatrics.
Karl Konrad Koessler, M.D., Ph.D., Associate Clinical Professor of Medicine.
Donald Putnam Abbott, M.D., Associate Clinical Professor of Medicine.
Carey Culbertson, M.D., Associate Clinical Professor of Obstetrics and Gynecology.
Frederick Brown Moorehead, D.D.S., M.D., Associate Clinical Professor of Surgery (Oral and Dental).
Robert Harry Herbst, M.D., Associate Clinical Professor of Surgery (Genito-urinary).
Herman Louis Kretschmer, M.D., Associate Clinical Professor of Surgery (Genito-urinary).
Vernon Cyrenius David, M.D., Associate Clinical Professor of Surgery.
Kellogg Speed, M.D., Associate Clinical Professor of Surgery.
Charles Gilchrist Darling, M.D., Associate Clinical Professor of Ophthalmology.
William George Reeder, M.D., Associate Clinical Professor of Ophthalmology.

George Abraham Torrison, A.B., M.D., Assistant Clinical Professor of Laryngology and Otology.

Josephine Estabrook Young, M.D., Assistant Clinical Professor of Neurology.

Elmer Lawton Kenyon, A.B., M.D., Assistant Clinical Professor of Laryngology and Otology.

James Murray Washburn, A.B., M.D., Assistant Clinical Professor of Medicine.

Ludwig Mannheimer Loeb, M.D., Assistant Clinical Professor of Medicine.

Alexander Francis Stevenson, M.D., Assistant Clinical Professor of Medicine.

John Ritter, M.D., Assistant Clinical Professor of Medicine.

Leon Bloch, M.D., Assistant Clinical Professor of Medicine.

Ellis Kirk Kerr, A.M., M.D., Assistant Clinical Professor of Medicine.

Frank Wesley Allin, A.M., M.D., Assistant Clinical Professor of Pediatrics.

William George Lee, M.D., Assistant Clinical Professor of Obstetrics and Gynecology.

David Fiske, M.D., Assistant Clinical Professor of Laryngology and Otology.

Robert Sonnenschein, M.D., Assistant Clinical Professor of Laryngology and Otology.

Thomas Williams Lewis, S.B., M.D., Assistant Clinical Professor of Laryngology and Otology.

John L. Jacques, M.D., Assistant Clinical Professor of Medicine.

Paul Oliver, M.D., Assistant Clinical Professor of Surgery.

George Gilbert Davis, M.D., Assistant Clinical Professor of Surgery.

Daniel Nathan Eisendrath, M.D., Assistant Clinical Professor of Surgery.

Isabella Coler Herb, M.D., Assistant Clinical Professor of Surgery (Anaesthetics).

Edward Allen Oliver, M.D., Assistant Clinical Professor of Dermatology.

James Herbert Mitchell, M.D., Assistant Clinical Professor of Dermatology.

Daniel Bernard Hayden, A.M., M.D., Assistant Clinical Professor of Laryngology and Otology.

Joseph Louis Baer, S.M., M.D., Assistant Clinical Professor of Obstetrics and Gynecology.

Arthur F. Byfield, M.D., Assistant Clinical Professor of Medicine.

James Richard Greer, M.D., Ph.D., Assistant Clinical Professor of Medicine.

Albert Horr Montgomery, M.D., Assistant Clinical Professor of Surgery.

Gatewood Gatewood, A.M., M.D., Assistant Clinical Professor of Surgery.

Edward James Lewis, M.D., Assistant Clinical Professor of Surgery.

Homer King Nicoll, M.D., Assistant Clinical Professor of Medicine.

Edwin Morton Miller, M.D., Assistant Clinical Professor of Surgery.

Golder Lewis McWhorter, M.D., Ph.D., Assistant Clinical Professor of Surgery.

Cassie Belle Rose, M.D., Assistant Clinical Professor of Surgery (Radiology).

John Favill, M.D., Assistant Clinical Professor of Neurology.

George Howell Coleman, M.D., Assistant Clinical Professor of Medicine.

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William Joseph Quigley, M.D., Assistant Clinical Professor of Medicine.
Thomas Dyer Allen, M.D., Assistant Clinical Professor of Ophthalmology.
Earle B. Fowler, M.D., Assistant Clinical Professor of Ophthalmology.
Edwin Frederick Hirsch, Ph.D., M.D., Assistant Clinical Professor of Pathology.
Ernst Pribram, M.D., Assistant Professor of Pathology.

Harry Eugene Kelly, A.M., Lecturer on Medicine (Medical Jurisprudence).

Henry H. Everett, M.D., Clinical Instructor in Laryngology and Otology.
John Hancock McClellan, M.D., Ph.D., Clinical Instructor in Medicine.
Edwin McGinnis, A.B., M.D., Clinical Instructor in Laryngology and Otology.
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Harry G. Hardt, M.D., Clinical Instructor in Medicine.
Asher F. Sippy, M.D., Clinical Instructor in Medicine.
Clarence L. Wheaton, M.D., Clinical Instructor in Medicine.
John Frank Waugh, M.D., Clinical Instructor in Dermatology.
Frederick Olaf Fredrickson, M.D., Clinical Instructor in Medicine.
Frank Amos Chapman, M.D., Clinical Instructor in Medicine.
Yale Norman Levinson, M.D., Clinical Instructor in Medicine.
Leland Charles Shafer, M.D., Clinical Instructor in Medicine.
Abraham B. Rimmerman, M.D., Clinical Instructor in Medicine.
John Dayhuff Ellis, M.D., Clinical Instructor in Medicine (Industrial).
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Georgiana Dvorak Theobald, M.D., Clinical Instructor in Ophthalmology.
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Charles Klaus Stulik, M.D., Clinical Instructor in Pediatrics.
Clark Wylie Finnerud, M.D., Clinical Instructor in Dermatology.
Frederic William Burcky, M.D., Clinical Instructor in Medicine.
Marie G. Ortmayer, M.D., Clinical Instructor in Medicine.
Carl O. Rinder, M.D., Clinical Instructor in Medicine.
Hugh James Polkey, M.D., Clinical Instructor in Surgery (Genito-urinary).
Jacob Myers, M.D., Clinical Instructor in Surgery (Orthopedic).
Elven James Berkheiser, M.D., Clinical Instructor in Surgery (Orthopedic).
John Alexander Gardiner, M.B., Clinical Instructor in Pediatrics.
Carl Wesley Apfelbach, M.D., Clinical Instructor in Pathology.

Mary M. Lyons, M.D., Clinical Instructor in Surgery (Anaesthetics).
Paul Christopher Fox, M.D., Clinical Instructor in Obstetrics and Gynecology.
Harry Richard Hoffman, M.D., Clinical Instructor in Neurology.
Francis Leo Foran, M.D., S.M., Clinical Instructor in Medicine.
Loren William Avery, M.D., Clinical Instructor in Neurology.
Melbourne Clements, M.D., Clinical Instructor in Surgery (Genito-urinary).
Kamil Schulhof, M.D., Clinical Instructor in Medicine.
Stephen Pantelis Anthony, M.D., Clinical Instructor in Medicine.
Harry Lee Huber, M.D., Clinical Instructor in Medicine.
Harry J. Isaacs, M.D., Clinical Instructor in Medicine.
Frank Brazzil Kelly, M.D., Clinical Instructor in Medicine.
Grant Harrison Laing, M.D., Clinical Instructor in Medicine.
Mabel Marie Matthies, M.D., Clinical Instructor in Medicine.
Sidney Alexander Portis, M.D., Clinical Instructor in Medicine.
LeRoy Hendrick Sloan, M.D., Clinical Instructor in Medicine.
George Oliver Solem, M.D., Clinical Instructor in Medicine.
Howard Martin Sheaff, M.D., Clinical Instructor and Dane Billings Memorial Fellow in Medicine.
Edward Julius Stieglitz, M.D., Clinical Instructor in Medicine.
Ralph W. Trimmer, M.D., Clinical Instructor in Medicine.
Emil George Vrtiak, M.D., Clinical Instructor in Medicine.
George Henry Jackson, M.D., Clinical Instructor in Surgery.
Harry Alvin Oberhelman, M.D., Clinical Instructor in Surgery.
Francis Howe Straus, M.D., Clinical Instructor in Surgery.
Fiske Jones, M.D., Clinical Instructor in Obstetrics and Gynecology.
Herman Porter Davidson, M.D., Clinical Instructor in Ophthalmology.
James P. Fitzgerald, M.D., Clinical Instructor in Ophthalmology.

Thomas Cottrell, M.D., Clinical Associate in Surgery (Genito-urinary).
Walter Thomas Venn, M.D., Clinical Associate in Surgery (Genito-urinary).
Robert Hugh Graham, M.D., Clinical Associate in Pediatrics.
Henry Clay Niblack, M.D., Clinical Associate in Pediatrics.
Proctor Cook Waldo, M.D., Clinical Associate in Pediatrics.
George Fielding Hibbert, M.D., Clinical Associate in Obstetrics and Gynecology.
Leon Wade Marton, M.D., Clinical Associate in Obstetrics and Gynecology.
William Balmer Knox, M.D., Clinical Associate in Medicine.
Russell C. Johnson, M.D., Clinical Associate in Medicine.
Eugene Fagan Traut, M.D., Clinical Associate in Medicine.
Evelina Wilhelmina Ehrmann, S.B., M.D., Clinical Associate in Pediatrics.
Charles Melville Bacon, M.D., Clinical Associate in Medicine.
William George Hibbs, M.D., Clinical Associate in Medicine.
Marion Ousley Cole, M.D., Clinical Associate in Medicine.
Gerritt Cotts, M.D., Clinical Associate in Obstetrics and Gynecology.
Margaret Howard Austin, M.D., Clinical Associate in Medicine.
Emmet Blackburn Bay, M.D., Clinical Associate in Medicine.
Faris Franklin Chesley, M.D., Clinical Associate in Medicine.
Arthur Ralph Colwell, M.D., Clinical Associate in Medicine.
James Bryan Eyerly, M.D., Clinical Associate in Medicine.
James Lisle Williams, A.M., M.D., Clinical Associate in Medicine.
Maude Hall Winnett, M.D., Clinical Associate in Medicine.
Garland Ward Ellis, M.D., Clinical Associate in Medicine.

Harry Albert Singer, M.D., Clinical Associate in Medicine.
Hillier L. Baker, M.D., Clinical Associate in Surgery.
Will Ferson Lyon, M.D., Clinical Associate in Medicine (Industrial).
Joseph Allegretti, M.D., Clinical Associate in Medicine.
Thomas Gervase Walsh, M.D., Clinical Associate in Medicine.
Edward Buckman, M.D., Clinical Associate in Surgery (Genito-urinary).
Edward Dudley Allen, M.D., Clinical Associate in Obstetrics and Gynecology.
Leo Clifford Clowes, M.D., Clinical Associate in Medicine.
Victor E. Gonda, M.D., Clinical Associate in Medicine (Neurology).
Malcomb A. Kemper, M.D., Clinical Associate in Medicine.
Evans William Pernokis, M.D., Clinical Associate in Medicine.
Richard B. Richter, M.D., Clinical Associate in Medicine (Neurology).
David B. Rotman, M.D., Clinical Associate in Medicine (Neurology).
Mary Gritzner Schroeder, M.D., Clinical Associate in Medicine (Neurology).
Earl Alfred Zaus, M.D., Clinical Associate in Medicine.
Elmer William Hagens, M.D., Clinical Associate in Laryngology and Otology.
Richard Cotter Gamble, M.D., Clinical Associate in Ophthalmology.
Vernon Mayne Leech, M.D., Clinical Associate in Ophthalmology.
Aristoph Spare, M.D., Clinical Associate in Ophthalmology.
Alfred L. Van Dellen, M.D., Clinical Associate in Ophthalmology.
Michael Higgins Ebert, M.D., Clinical Associate in Dermatology.

Jay Ireland, M.D., Clinical Assistant in Surgery.
Ralph Thomas Van Tuyl, M.D., Clinical Assistant in Pediatrics.
Toney Taylor Crooks, M.D., Clinical Assistant in Pediatrics.
Gilbert John Schwartz, M.D., Clinical Assistant in Pediatrics.
William L. Buhrman, M.D., Clinical Assistant in Pediatrics.
Jay McKinley Garner, M.D., Clinical Assistant in Medicine.
John Jacob Hesser, M.D., Clinical Assistant in Medicine.
Arthur Sophus Juul Peterson, M.D., Clinical Assistant in Medicine.
Beatrice Russell Lovett, M.D., Clinical Assistant in Pediatrics.
John Joseph Zavertnik, M.D., Clinical Assistant in Pediatrics.
Bernard Parker Mullen, M.D., Clinical Assistant in Surgery.
William John Gallagher, M.D., Clinical Assistant in Surgery.
Earl Roach McCarthy, M.D., Clinical Assistant in Surgery (Genito-urinary).
Andrew Joseph Sullivan, M.D., Clinical Assistant in Surgery (Genito-urinary).
Celestin B. Semerak, S.B., M.D., Fellow in Pathology.
Randolph Francis Olmstead, M.D., A.D., Thomson-Bevan Fellow in Surgery.
Edgar Cleveland Turner, M.D., Francis A. Hardy Fellow in Surgery.
Orland F. Montgomery, M.D., Research Fellow in Dermatology, Hyde Memorial Fund.
Richard B. Evans, M.D., Clinical Assistant in Medicine.
George E. Miller, Ph.D., Clinical Assistant in Medicine (Materia Medica and Toxicology).
George F. Munns, M.D., Clinical Assistant in Pediatrics.
Willis J. Potts, M.D., Clinical Assistant in Surgery.
Frank V. Theis, M.D., Clinical Assistant in Surgery.
George J. Rukstinat, M.D., Clinical Assistant in Pathology.
Wayne S. Branstadt, M.D., Clinical Assistant in Medicine.
Ralph Lee Harris, M.D., Clinical Assistant in Medicine.
Ross Stanley Lang, M.D., Clinical Assistant in Medicine.

Meyer R. Lichtenstein, M.D., Clinical Assistant in Medicine.
Martin G. Marks, M.D., Clinical Assistant in Medicine.
Abraham M. Serby, M.D., Clinical Assistant in Medicine.
Maurice Simkin, M.D., Clinical Assistant in Medicine.
William Simkin, M.D., Clinical Assistant in Medicine.
Idel Treiger, M.D., Clinical Assistant in Medicine.
Howard Wakefield, M.D., Clinical Assistant in Medicine.
George Alvin Barnett, M.D., Clinical Assistant in Pediatrics.
Eleanor Leslie, M.D., Clinical Assistant in Pediatrics.
Rush Taylor, M.D., Clinical Assistant in Pediatrics.
Albert Hayden Gibson, M.D., Clinical Assistant in Pediatrics.
Knowlton E. Barber, M.D., Clinical Assistant in Surgery (Genito-urinary).
Joseph H. Chivers, M.D., Clinical Assistant in Surgery.
Minas Joannides, M.D., Clinical Assistant in Surgery.
Harold I. Meyer, M.D., Clinical Assistant in Surgery.
Julius J. Mussil, M.D., Clinical Assistant in Surgery.
Charles N. Pease, M.D., Clinical Assistant in Surgery (Orthopedic).
Walter John Shudde, M.D., Clinical Assistant in Surgery (Genito-urinary).
Charles Grafton Weller, M.D., Clinical Assistant in Surgery (Genito-urinary).
Carl Philip Bauer, M.D., Clinical Assistant in Obstetrics and Gynecology.
Jacob William Holderman, M.D., Clinical Assistant in Laryngology and Otology.
Richard Watkin Watkins, M.D., Resident in Laryngology and Otology, Presbyterian Hospital; E. Fletcher Ingals Fellow; Clinical Assistant.
Halbert Andrew Haynes, M.D., Clinical Assistant in Ophthalmology.
Ward Clair Alden, M.D., Clinical Assistant in Ophthalmology.
Joseph George Weber, M.D., Clinical Assistant in Ophthalmology.
Marion S. Fink, M.D., Clinical Assistant in Dermatology.
Frederick R. Schmidt, M.D., Clinical Assistant in Dermatology.

III. THE RUSH POST-GRADUATE SCHOOL OF MEDICINE

The Rush Post-Graduate School of Medicine is devoted to investigation and advanced training in Clinical Medicine. Three lines of work are emphasized: investigation in special subjects by both students and staff; clinics and bedside studies in special fields of medical or surgical practice in conjunction with the laboratory studies pertaining to those fields for practitioners who wish to devote a year or more to preparation for practice in a specialty or in general medicine; short terms of intensive clinics for practitioners who can devote less time, but who will thus be enabled to keep informed of important advances in medical practice. It is provided that the Faculty shall consist of: (*a*) the President of the University; (*b*) the Dean of Faculties; (*c*) the Dean of the School; (*d*) the Chairmen of Departments in the School; (*e*) those members of the Faculty of Rush Medical College substantially half of whose work for the current year is in the Rush Post-Graduate School of Medicine. This Faculty controls the work of the Rush Post-Graduate School of Medicine and recommends its students to the Graduate Faculties of the University for admission to candidacy for the Master's degree and Doctor's degree (Ph.D.) and for those degrees. Courses in Oto-Laryngology are now offered as outlined in a separate announcement. Other courses are being organized and will be offered in the Autumn Quarter, 1926. Correspondence is invited.

BOARDS

BOARD OF MEDICAL AFFAIRS

Members *ex officio*:

The President.
The Dean of Faculties.
The Recorder.
The Dean of the Ogden Graduate School of Science.
The Dean of Medical Students.
The Dean of Rush Medical College.
The Dean of the Rush Post-Graduate School of Medicine.
The Director of University Hospitals.
The Director of the Otho S. A. Sprague Memorial Institute.
The Director of the John Rockefeller McCormick Memorial Institute for Infectious Diseases.

Vernon C. David, representing the Presbyterian Hospital.
Joseph Brennemann, representing the Children's Memorial Hospital.
Oliver S. Ormsby, representing the Central Free Dispensary.
Arthur D. Bevan, representing the Home for Destitute Crippled Children.
Charles A. Parker, representing the Country Home for Convalescent Children.

Members by appointment:

Robert R. Bensley.
Frank Billings.
Anton J. Carlson.
Edwin O. Jordan.
Franklin C. McLean.
Dallas B. Phemister.
George E. Shambaugh.
Julius Stieglitz.

BOARD OF HOSPITALS

Members *ex officio:*

The President.
The Dean of Faculties.
The Recorder.
The Dean of the Ogden Graduate School of Science.
The Dean of Medical Students.
The Director of Hospitals.
The Dean of the Graduate School of Social Service Administration.

Members by appointment:

Frank Billings.
Anton J. Carlson.
Ludvig Hektoen.
Ernest Edward Irons.
Joseph L. Miller.
Franklin C. McLean.
Dallas B. Phemister.
Harry Gideon Wells.

GENERAL REGULATIONS

1. *Changes in rules and regulations.*—The right is reserved by the Faculties to make changes at any time in requirements for admission, curriculum, fees, or any rules and regulations, and to refuse further registration to a student whom his instructors believe to be incompetent in scholarship or otherwise unfit to continue his course.

2. *Physical and Medical examination.*—Every medical student must report at the office of the Medical Adviser for physical and medical examination as soon as possible after admission; this examination must be taken during the first two weeks. If deferred beyond two weeks, or if the original appointment for the examination is not kept, a late fee of $2.00 must be paid. The University seeks to maintain the best possible sanitary and hygienic conditions in the matter of (1) purity of water and food supply, (2) sanitary conditions of all buildings and rooms used in any way by students, (3) preventing the entrance and spread of contagious diseases, (4) restraining students from undertaking work for which they are physically unfit. The co-operation of all students is requested in carrying out this purpose.

3. *The University year.*—The University year is divided into four quarters of about twelve weeks each. The Autumn, Winter, and Spring Quarters begin about the first day of October, January, and April, respectively, and the Summer Quarter immediately after the close of the Spring Quarter. The Summer Quarter is divided into two equal terms. At the close of the Autumn and Winter Quarters there is a recess. At the close of the Spring Quarter there is no recess. At the close of the Summer Quarter there is a recess of about four weeks. Students are admitted at the opening of any quarter including the Summer Quarter, but medical students must commence the medical curriculum with the Autumn or Spring Quarters in order to pursue the initial medical courses in proper sequence. The work of the third year in Rush Medical College must commence also with the Autumn or Spring Quarter.

4. *Attendance of undergraduates.*—It is expected that students will regard an engagement with an instructor or other University appointment as they regard any other engagement and that the customary rules of courtesy will be observed.

ADMISSION

1. *Limitation of classes.*—First- and second-year classes are limited to 100 in each class; the third- and fourth-year classes to 140 in each class.

2. *Admission.*—The Committee on Admissions meets regularly in June and February of each year to consider admission to the Graduate School of Medicine at the University and to Rush Medical College. Applications for admission in the Autumn Quarter should be submitted by June 1. The Committee selects from among the applicants students who can be admitted on a basis of scholarship and the possession of other qualifications necessary or desirable in the study and practice of medicine.

REQUIREMENTS FOR ADMISSION

1. A Bachelor's degree, equivalent or approximately equivalent to that conferred by leading colleges and universities, is required for admission to the Graduate School of Medicine of the University of Chicago. The college work must have included the equivalent of 10 majors (33½ semester hours) of work in the natural and physical sciences, and the applicant must have a reading knowledge of one modern language other than English (German or French preferred). This knowledge is tested by an

examination given by the appropriate department two days before the work of the Spring or Autumn Quarters is started, or it may be taken during the year preceding admission.

2. Evidence of interest and ability in research will commend applicants to the Committee on Admission.

(During 1926 students may be admitted to the third year of Rush Medical College who have completed three years (27 majors) of college work and two years of work in an approved medical school.)

PREMEDICAL AND MEDICAL WORK REQUIRED FOR ADMISSION TO STATE BOARD EXAMINATIONS FOR LICENSES TO PRACTICE

Licensing boards of the various states require evidence of the completion of certain preliminary education in advance of matriculation in a recognized medical school before candidates are admitted to examinations for license to practice. The requirements in any particular state may be ascertained by letter to the secretary of the Board of Medical Examiners of the state in question. The standards of the Council on Medical Education and Hospitals of the American Medical Association meet the requirements of all state boards. They are here reprinted as revised to May 1, 1925, for the information of students interested.

STANDARDS OF THE AMERICAN MEDICAL ASSOCIATION

The minimum requirement for admission to an acceptable medical college is a four-year high-school education or its full equivalent, and two years of work in a college of arts and sciences approved by the Council on Medical Education and Hospitals, as follows:

HIGH-SCHOOL REQUIREMENTS

(*See Laws and Board Rulings, published by the American Medical Association 535 N. Dearborn St., Chicago. May 1, 1925, pp. 218 to 219*).

PREMEDICAL COLLEGE COURSE

The minimum requirement for admission to acceptable medical schools, in addition to the high-school work specified, will be sixty semester hours of collegiate work, exclusive of military and physical education, extending through two years, of thirty-two weeks each, exclusive of holidays, in a college approved by the Council on Medical Education and Hospitals. The subjects included in the two years of college work should be in accordance with the following schedule:

SCHEDULE OF SUBJECTS OF THE TWO-YEAR PREMEDICAL COLLEGE COURSE

SIXTY SEMESTER HOURS* REQUIRED

Required subjects:	Semester Hours
Chemistry (*a*)	12
Physics (*b*)	8
Biology (*c*)	8
English composition and literature (*d*)	6
Other non-science subjects (*e*)	12
Subjects strongly urged:	
A modern foreign language (*f*)	6–12
Advanced botany or advanced zoölogy	3– 6
Psychology and logic	3– 6
Advanced mathematics, including algebra and trigonometry	3– 6
Additional courses in chemistry	3– 6
Other suggested electives:	
English (additional), economics, history, sociology, political science, mathematics, Latin, Greek, drawing	

* A semester hour is the credit value of sixteen weeks' work consisting of one lecture or recitation period per week, each period to be not less than fifty minutes net, at least two hours of laboratory work to be considered as the equivalent of one lecture or recitation period.

SUGGESTIONS REGARDING INDIVIDUAL SUBJECTS

a) Chemistry.—*Twelve semester hours required of which at least eight semester hours must be in general inorganic chemistry, including four semester hours of laboratory work and four semester hours in organic chemistry, including two semester hours of laboratory work. In the interpretation of this rule, work in qualitative analysis may be counted as general inorganic chemistry.*

b) Physics.—*Eight semester hours required, of which at least two must be laboratory work. It is urged that this course be preceded by a course in trigonometry.*

c) Biology.—*Eight semester hours required, of which four must consist of laboratory work. This requirement may be satisfied by a course of eight semester hours in either general biology or zoölogy, or by courses of four semester hours each in zoölogy and botany, but not by botany alone.*

d) English composition and literature.—*The usual introductory college course of six semester hours, or its equivalent, is required.*

e) Non-science subjects.—*Of the sixty semester hours required as the measurement of two years of college work, at least eighteen, including the six semester hours of English, should be in subjects other than the physical, chemical, or biologic sciences.*

f) Foreign Language.—*A reading knowledge of a modern foreign language is strongly urged. French and German have the closest bearing on modern medical literature. If the reading knowledge in one of these languages is obtained on the basis of high school work, the student is urged to take the other language in his college course. It is not considered advisable, however, to spend more than twelve of the required sixty semester hours on foreign languages.*

MEDICAL-SCHOOL COURSE

Attention is invited to the provision of the Illinois law which requires of all applicants for license to practice in Illinois evidence that the minimum time between the commencement of the work of the Freshman year and the ending of the work of the Senior year, on which all students are required to be in attendance, shall be not less than forty months, and evidence of attendance on four full courses of lectures of at least nine months in four separate years.

HOSPITAL INTERNESHIP

The Illinois law governing license to practice in this state requires further that all applicants who graduated since July, 1922, must also have completed a course of training of not less than twelve months in a hospital approved by the Department of Registration and Education.

ADMISSION AS UNCLASSIFIED STUDENTS

Students not seeking a degree may be admitted, through the office of the University Examiner, as unclassified students on the following conditions:

1) They shall present (*a*) credentials showing the completion of work equivalent to the admission requirements of the College or School in which they desire to register, or (*b*) evidence of the satisfactory completion of prerequisites for the courses desired.

2) They shall give satisfactory reason for not classifying and becoming candidates for degrees.

3) They enter the University for the purpose of making a study of a definite subject or group of subjects for which adequate preparation has been received. In case of doubt as to the applicant's ability to pursue successfully the work desired, the approval

of the instructor to whose courses admission is sought, or of an official representative of the department concerned, will be required.

4) They may not register for elementary courses only.

5) They are subject to the general regulations pertaining to other students.

6) They are ineligible for public appearance.

7) Registration of unclassified students in the medical courses is subject to the approval of the Dean of the School or College concerned. In the case of students coming from other medical schools, a statement from the dean of good standing and a recommendation for registration in the courses desired here are required.

ADMISSION TO ADVANCED STANDING IN THE MEDICAL COURSES

Students from other medical schools may receive credit for work successfully completed in such institutions, provided it is equivalent to corresponding work in the courses of the University of Chicago. They must have fulfilled the requirements for admission to the Medical Courses of this University.

A student seeking admission to advanced standing should write to the University Examiner for the blank form of application, complete it and submit it, together with a letter of honorable dismissal from the college previously attended, to the Examiner, who will, if the conditions above stated are met, present it to the Committee on admission. The student will be promptly notified of the action taken. The Committee meets regularly in June and February of each year.

PROCEDURE FOR ADMISSION

Any student seeking admission to the Medical Schools is requested to write to the University Examiner for an application blank which should be filled out fully and returned, together with an official itemized transcript of his college record, including a statement of his high-school record and a letter of honorable dismissal. The Examiner will evaluate these credentials, and will notify the student and the appropriate Dean promptly if the requirements for admission are fulfilled. If the requirements are not fulfilled the Examiner will send a list of deficiencies to the student.

Students are not necessarily admitted even though their records meet the specific requirements. The Committee on Admission selects from among the applicants those who can be admitted on the basis of scholarship and the possession of other qualifications judged necessary or desirable for the study and practice of medicine.

REGISTRATION

1. Registration includes (1) the selection of courses of study, (2) the filing of the registration card, and (3) the payment of fees to the University Cashier. Courses are selected and the registration card issued in the office of the Dean of the School or college.

2. Advanced courses may not be taken before prerequisite courses have been completed. With the approval of his Department, an instructor may make the completion of studies in related Departments a prerequisite for any course.

3. The Cashier issues receipts for the payment of University bills and certifies payment upon the student's registration card.

4. A student is not permitted to attend any course for which he is not registered.

5. Change of registration, without charge, is permitted up to the end of the first week of a quarter, if the consent of the Dean is obtained. After the first week, a fee of one dollar is paid to the Cashier of each change of registration, unless the initiative for the change comes from a University officer. If the change involves additional tuition or laboratory fees, these must be paid.

6. Credit for more than four majors in one quarter requires special permission of the Faculties.

CONTINUANCE

Continuance of students is subject to the recommendation of the Committee on Promotions. Students may be refused further registration in the Medical Courses for poor scholarship or they may be required to pass special general examinations in any or all groups of subjects before continuance is authorized.

DEFICIENCIES IN MEDICAL COURSES

1. A student's work is *deficient* when either the quality or quantity of work done is unacceptable to the instructor. A qualitative deficiency is indicated by the grade reported. A quantiative deficiency is reported either as "incomplete" with indication of the deficiency or "lacks final examination." The instructor may, at his option, reduce the grade or the amount of credit because of inadequate work throughout the quarter or excessive absence from whatever cause.

2. If a deficiency is not removed within the student's next quarter of residence, or, if the student is not meanwhile in residence within twleve months of the time it was incurred, the student must repeat the course to receive credit. A course lacking final examination may be completed, with the consent of the Dean and the instructor, by passing either (1) a special examination administered through the office of the University Recorder or of the Dean of Rush Medical College, or (2) the regular class examination at the end of the student's next quarter of residence, provided the course is again offered in that quarter. A course lacking work other than the final examination must be completed to the satisfaction of the instructor.

THE NUMBERING SYSTEM

(ARTS, LITERATURE, AND SCIENCE)

The courses are divided into four groups as follows, the first figure in each number indicating the group in which the course belongs:

101–99.—Courses primarily for undergraduate with not more than 18 majors of credit.

201–99.—Courses primarily for undergraduates with more than 18 majors of credit.

***301–99.**—Advanced technical courses that assume a previous general survey of the field or method or problem treated. Open to undergraduates with 27 majors of credit, including departmental prerequisites.

***401–99.**—Research and problem courses.

* For the Master's degree at least six, and for the degree of Doctor of Philosophy at least 18 of the majors offered shall be from courses numbered 300 or above.

CURRICULUM

MEDICAL COURSES FOR THE FIRST AND SECOND YEARS

1. *Outline of the courses.*—The work of the first two years in Medicine consists mainly of study of the fundamental medical sciences: Human Anatomy, including Gross Anatomy, Histology, Neurology, and Embryology; Physiology, Physiological Chemistry, Pharmacology, Bacteriology, and Pathology.

2. *Amount of Work.*—The minimum amount of work is 18 majors.

NOTE.—A major course in laboratory work is defined as a course occupying 10 hours a week for the quarter (a total of 120 hours). A major is in general equivalent to 3½ semester hours. A double major occupies twice the number of hours per week for the quarter.

A minor course in laboratory work is a course occupying 10 hours a week for one-half a quarter, or six weeks. The value of each course in the following departmental statement is stated as a major (Mj.), a double major (DMj.), a minor (M.), a double minor (DM.), or the decimal fraction of a major or minor.

3. *The Curriculum.*—Satisfactory completion of the work outlined below is prerequisite for admission to the clinical work of the third year in Rush Medical College.

a) *Anatomy*, 6½ majors as follows: Human Anatomy (Dissection), 3½ majors (Anatomy 201, 202, 203, 204); Splanchnology, Histology, and Cytology, 1 major (Anatomy 210); Embryology, 1 major (Zoölogy 220); Neurology, 1 major (Anatomy 317).

b) *Physiology*, *c*) *Physiological Chemistry and Pharmacology*: 6 majors as follows: Physiology, 3 majors (Physiology 201, 202, 203); Physiological Chemistry, 2 majors (Physiological Chemistry 201 and 205); Pharmacology, 1 major (Physiological Chemistry 253).

d) *Pathology*, 2 majors as follows: Pathology 201 and 202.

e) *Hygiene and Bacteriology*, 1½ majors as follows: Bacteriology 203.

f) At least two majors in any branch or branches of the student's choice. Advanced work in any department of the Ogden Graduate School of Science (Physics, Chemistry, Zoölogy, Botany, Psychology, Geology, etc.) may be counted as medical electives if approved by the Dean of Medical Students. Attention is called to the list of courses in each department and to the conditions under which the degrees of Master of Science or Doctor of Philosophy are awarded for work in these departments.

An elective course in Military Medicine is offered by a medical officer detailed by the Surgeon General of the Army. This course gives ½ major of credit per year.

The clinical work of the medical courses for the third and fourth years will be given in 1926 and 1927 only in Rush Medical College, and the degree of Doctor of Medicine will be awarded on recommendation of the Faculty of that College.

MEDICAL COURSES FOR THE THIRD AND FOURTH YEARS

1. *Outline of courses.*—The work of the third and fourth years consists mainly of study of the clinical medical sciences: Pathology, Medicine (including Materia Medica, Therapeutics, and Medical Jurisprudence), Pediatrics, Surgery, Obstetrics and Gynecology, Laryngology and Otology, Ophthalmology and Dermatology.

2. *Amount of work.*—The amount of work required is 22 majors of which 2 majors are entirely elective. The remaining 20 majors are assigned to specific departments. There is an increasing freedom of election within departments.

Optional courses in addition to those required above are offered to students who desire them. Students are encouraged to spend additional time in special work involving original investigation.

THE FIFTH OR INTERNE YEAR

INFORMATION, RULES, AND REGULATIONS

GENERAL

1. Since 1914 a fifth year has been required for graduation, consisting of an interneship in a hospital approved by the Faculty of Rush Medical College, and taken under conditions prescribed by that Faculty.

2. On successful completion of the first four years including the usual final examinations the student receives a certificate, which qualifies him to enter upon the work of the fifth year. On completing successfully the fifth year he will be entitled, on recommendation of the Faculty, to the diploma conferring upon him the degree of Doctor in Medicine.

3. Every student must secure an interneship by examination or appointment and must notify the Dean of Rush Medical College *within four days after entering the hospital on special blank supplied for this purpose.* Before making application for such interneship the student should determine whether the hospital contemplated is on the approved list of hospitals as posted in the office of the Dean.

4. Upon receipt of notification from the student that the latter has selected a hospital in which he will serve his required interneship, the Dean of the College shall communicate immediately by letter with the superintendent of said hospital, which communication shall cover the following points: (*a*) that prospective interne is a candidate for the degree of Doctor in Medicine from the University of Chicago; (*b*) that as such he is accountable to the Faculty of Rush Medical College for the proper fulfilment of his fifth-year work; (*c*) that the College desires at all times that a mutual spirit of co-operation shall obtain between the college and the hospital.

5. All internes during their service shall be under the supervision of the Committee on Fifth Year, aided by such members of the Faculty as the Committee may select to act as "supervisors."

INTERNES

6. Each interne shall be assigned to a supervisor and shall be required, wheresoever he may be taking his interneship, to report to his supervisor as set forth herewith: (*a*) Immediately upon receiving notification from the Committee on Fifth Year of his assignment to a supervisor he shall communicate with the latter in writing, giving the date of the beginning of his interneship, the service entered upon, the name of the hospital superintendent, and the names of his first attending men. He shall also see that the name of his supervisor is given to the hospital superintendent and to these attending men, and subsequently to other attending men as he shall come into relationship with them. (*b*) Thereafter the interne shall report in writing to his supervisor every *two months.* These bi-monthly reports shall include a reasonably detailed account of his hospital work to date, and the names of any new attending men under whom he may have come by change of services.

7. If, at any time during the hospital service, the interne is confronted with a problem which might affect his fifth-year standing and upon which he feels the need of advice and counsel, he shall communicate with his supervisor, who will give the matter immediate consideration and if necessary will bring it at once to the attention of the Committee on Fifth Year.

8. An interne will be expected to conform to the rules for the conduct of internes prescribed by the hospital in which he is serving.

9. The attention of the internes is called to the clause in the *Announcements* under "Requirements for Graduation," which states that the candidate for a degree *must have maintained unexceptionable conduct while at the University.* This is and will be construed to include all fifth-year internes wheresoever they may be taking their fifth-year work.

10. An interne abandoning, without the consent of the hospital authorities, an interneship which he has accepted, shall be denied his degree unless he satisfies the Faculty that there were valid and ample reasons for his leaving said interneship. No interne may transfer his service to another hospital until he has received the consent of the Committee on Fifth Year in writing. In order to enforce this rule the College withholds the actual diploma of a student who may have completed a year of interneship in two hospitals until he has completed a full year of service for which he has contracted in the second hospital.

11. A student may, at the discretion of the Committee on Fifth Year, be required to pass an examination at the end of his term of service, as interne.

12. The student shall be required to be present at the Convocation when his degree is to be conferred unless the Faculty grants his request that the degree be conferred *in absentia.*

13. A copy of these regulations will be given each student entering the fifth-year work, which copy he shall keep for future reference.

SUPERVISORS

14. The Committee on Fifth Year, appointed by the Faculty, shall have charge of the supervision of the work of the fifth-year internes, shall determine the quality of that work, and shall judge whether the interne is entitled to be recommended to the University for the degree of Doctor in Medicine at the end of his service.

15. The Committee on Fifth Year shall appoint "supervisors" from the Faculty, and, when deemed advisable, from the attending staff of the hospital in which the interne is serving.

16. One or more internes shall be assigned to each supervisor, who shall be notified at once of such assignment or assignments by the secretary of the Committee on Fifth Year. The supervisor should, if possible, have a personal interview with the students assigned to him, before they enter upon their interne service.

17. Where possible the supervisor shall visit, for purposes of supervision and inspection, the hospital or hospitals where the internes under him are serving.

18. The supervisor shall require each interne under him to carry out the provisions relative to reports in paragraph 5 above, and shall communicate with and secure reports from hospital superintendents and attending men as to the quality of work done by the interne, using the blanks provided for that purpose.

19. He shall make quarterly individual reports on the work of the internes under him to the Committee on Fifth Year on blanks provided for that purpose, and shall make such comments and recommendations based on the reports received by him as will aid the Committee in each instance to act intelligently and justly in recommending to the University whether a degree is to be granted, an examination required, or a degree deferred or denied.

20. The supervisor will be expected also to serve the internes under him in the capacity of counselor and helper. He shall give careful attention to and promptly answer all communications from internes requesting advice; and, if in doubt as to the

course of action to recommend, shall place the matter at once before the Committee on Fifth Year through the Secretary of that body.

21. The supervisor shall keep all correspondence, reports, etc., relative to each interne on file; shall be ready at any time on request to turn the same over to the Committee on Fifth Year, and at the end of the interne's year shall deliver intact to the Committee all such correspondence, reports, etc., that may remain in his hands.

22. A copy of these regulations shall be sent each supervisor with his first notification of interne assignment, which copy he should file for future reference.

23. The list of "Approved Hospitals" is made up of those which meet the requirements laid down by the Faculty as to size, equipment, services, staff, etc., and which in their judgment offer an adequate interneship for fifth-year students. This list is subject to additions and changes at any time.

24. The list of "Approved Hospitals" corrected to date will be found posted in the office of the Dean.

Communications relative to the fifth year are to be referred to the secretary of the Committee on Fifth Year, Rush Medical College, 1758 West Harrison Street, Chicago.

DEGREES

Graduate study in the Graduate School of Medicine of the Ogden Graduate School of Science and in the Rush Post-Graduate School of Medicine may lead to a Master's or a Doctor's degree under the conditions specified below (for detailed statement as to candidacy and requirements see the *Graduate Handbook*, supplied at the office of the Dean upon request). Graduate study in Rush Medical College leads to the degree of Doctor of Medicine.

I. THE DEGREE OF DOCTOR OF MEDICINE

This degree will be given in 1926 and 1927 only on the recommendation of the Faculty of Rush Medical College.

The following are the requirements for recommendation for this degree:

The candidate must be not less than twenty-one years of age and must have studied medicine the legal period. He must have paid all dues, must have complied with all the requirements, and must have maintained unexceptionable conduct while in the University.

He must have attended twelve full quarters, or an equivalent amount of time, in a recognized medical school, of which at least the last three quarters must have been taken in this institution, and fifty-two months must have elapsed between the beginning of his first session in a medical school and the date of his graduation.

He must have completed successfully all of the work required, as follows: 18 majors of work in the Freshman and Sophomore years, comprising a minimum of 6½ majors in Anatomy (from courses offered in the Department of Anatomy and the subdepartment of Embryology; these courses include both Gross and Microscopic Anatomy[1]; 6 majors in Physiology (from courses offered in the Departments of Physiology and of Physiological Chemistry and Pharmacology); 2 majors in the Department of Pathology; 1½ majors in the Department of Bacteriology; 2 majors in one or more of the departments of his choice.

His work for the first two years must be pronounced satisfactory by the Com-

[1] They must include the dissection of the lateral half of the human body.

mittee on Promotions, when a certificate of the completion of the first 18 majors of medical work will be issued to him.

Twenty-two majors of work in the Junior and Senior years, comprising a minimum of 1 major in Pathology, 7 majors in Medicine (including Materia Medica, Therapeutics and Medical Jurisprudence), 1 major in Pediatrics, 5 majors in Surgery; 3 majors in Obstetrics and Gynecology,[1] at least 2 majors of which must be in Obstetrics; 1.2 majors in Laryngology and Otology; .8 major in Ophthalmology; 1 major in Dermatology; 2 addition majors in any branch or branches of his choice. These requirements are presented in detail in the departmental statements.

He must have passed successfully a final examination, both written and practical, in Pathology; Medicine; Pediatrics; Surgery; Obstetrics and Gynecology; Laryngology and Otology; Ophthalmology; and Dermatology.

On the successful completion of four years of work, and of the final examinations, a four-year certificate is issued which qualifies the student to serve as an interne in a hospital.

He must serve a year of successful interneship in an approved hospital.

He must attend the graduation exercises and receive his diploma in person, unless excused for cause by special action of the Faculty.

NOTE.—Admission to State Board Examinations for license to practice medicine is contingent in some states on the satisfactory completion of certain courses in the Medical School. Specific information concerning the requirements in any state may be obtained in the office of the Dean of Medical Students, or by writing the American Medical Association, 535 N. Dearborn Street, Chicago, for "Abstract of Laws and Board Rulings" (price sixty cents).

II. THE MASTER'S DEGREE

1. *Candidacy.*—Any member of any Graduate School who has been in attendance one quarter or more, and whose undergraduate course is equivalent to that required for a corresponding Bachelor's degree in the University of Chicago, and whose thesis subject has been accepted by the department concerned, may, on recommendation by the department or departments in which he is working, be enrolled, by vote of the Graduate Faculty, as a candidate for a Master's degree. Application for admission to candidacy must be made on the blank provided for the purpose. This blank must be obtained by the applicant at the Dean's office, and the application must be on file in that office at least two months before the degree is conferred.

2. *Requirements.*—Students thus accepted as candidates will be given a Master's degree on fulfilment of the following requirements:

a) At least three quarters' residence at the University.

b) At least 8 majors of graduate work at the University of Chicago. These 8 majors need not be all in one department, but must be selected according to some rational plan approved by the Dean at least six months before the degree is conferred. The individual courses must receive the approval of the heads of the departments concerned.

c) A satisfactory dissertation on a subject approved by the Head of the Department at least three months before graduation. The dissertation in complete form approved by the Department must be filed in the office of the Dean at least three weeks before the degree is conferred.

d) The delivery of three printed or typewritten copies of the dissertation to the University Library at least ten days before the Convocation at which the degree is to be conferred. Two of the copies must be bound.

[1] Each student must have personally attended not less than twelve patients in confinement.

e) A satisfactory examination on the work taken for the degree.

f) No course completed with a grade below C will count toward the Master's degree.

III. THE DEGREE OF DOCTOR OF PHILOSOPHY

The degree of *Doctor of Philosophy* is given, not on the basis of the completion of a certain amount of time spent upon a specified program, but as the recognition and mark of high attainments and ability in the candidate's chosen province, shown, first, by the production of a dissertation evincing the power of independent investigation and forming an actual contribution to existing knowledge; and, secondly, by the passing of examinations covering the general field of the candidate's subjects, with more detail in the case of the principal subject, with less detail in the case of the secondary subject or subjects.

1. *Candidacy.*—Any member of the Graduate Schools of Medicine who has been in attendance one quarter or more, whose undergraduate course is equivalent to that required for a Bachelor's degree in the University of Chicago,[1] whose thesis subject has been accepted by the Head (or Chairman) of the department, and who has a reading knowledge of French and German, may, on recommendation by the department, be enrolled, by vote of the Graduate Faculty, as a candidate for the degree of Doctor of Philosophy. On recommendation of a department, approved by the Dean, any other Germanic language may be substituted for German and any other Romance language for French. A reading knowledge of the foreign languages must be certified by the appropriate departments and the application for admission to candidacy must be filed by the applicant at the Dean's office on the blank provided for that purpose not less than eight calendar months before the convocation at which the degree is conferred.

2. *Requirements.*—Students accepted as candidates for the degree of Doctor of Philosophy will be given the degree on the fulfilment of the following requirements:

a) Normally three years of resident work in pursuance of an accepted course of study. The work offered in fulfilment of the requirements for the Ph.D. degree in any department is outlined by the Department and approved by the Dean, for each candidate, not later than the first quarter of his last year of residence work. The work required will include such courses in departments allied to that of principal work as may be deemed necessary by the principal department. The work is selected with regard to the needs of the individual student, with the double purpose (1) of giving him a knowledge of the relations of his principal subject to cognate branches of learning, and (2) of preparing him for productive scholarship. All courses offered in fulfilment of the requirement for the degree must be advanced courses, and a list of courses shall be submitted to the Faculties when the applicant is admitted to candidacy.

b) A satisfactory final examination upon the work done in preparation for the degree.

c) The presentation of a satisfactory dissertation upon a subject with has been approved by the Head (or Chairman) of the Department.

d) A good command of literary expression and such knowledge of subjects considered fundamental as may be prescribed by the department.

3. *Dissertation.*—Each candidate prepares a dissertation upon some topic connected with his principal subject. The dissertation constitutes an actual contribution

[1] In case the candidate did not obtain his Bachelor's degree at the University of Chicago he will present to the Examiner on blanks furnished for the purpose a detailed statement of his undergraduate work. The Examiner cannot always report upon these statements during the opening week of the quarter.

to knowledge. Its subject is submitted for approval to the Head (or Chairman) of the Department at least twelve months before the date of the final examination. The dissertation itself is submitted to the Head (or Chairman) of the Department, in typewritten form, at least one month before the date of the final examination. This period may be lengthened to six weeks at the option of any department.

Three weeks before the Convocation at which the degree is to be conferred, three printed or typewritten copies of the dissertation, together with a certificate signed by the Head (or Chairman) of the Department that the copy, as submitted, is accepted as the candidate's dissertation for the degree of Doctor of Philosophy, and approved for publication without alteration, are filed in the office of the Dean. The title-page of the dissertation is of the form prescribed by the University. The three typewritten copies are written on paper of uniform size, $8\frac{1}{2} \times 11$ inches, and of a quality approved by the Head of the Acquisition Department of the University Libraries, from whom samples of paper and of the proper form of title-page may be obtained. The copies of the dissertation are delivered by the Dean School to the Acquisition Department of the Libraries. One or more copies are catalogued in the Libraries and made available for consultation. The candidate pays a fee of $4.50 for the binding of the three copies of the dissertation.

Illustrative matter—maps, drawings, etc.—may, upon recommendation of the Department, be omitted from two of the three typewritten copies deposited in the Libraries.

In addition to the three typewritten copies of the dissertation mentioned above, the candidate submits an abstract in duplicate not exceeding 3,000 words and not less than 1,200 words in length, together with a certificate by the authorized departmental representative that the same is accepted by the department as a summary of method, evidence, and conclusions. If the dissertation is brief, not exceeding 3,000 words, it may, if the candidate prefers, be published in full in the volume of abstracts. The quality of paper and the form of title-page are both prescribed by the University. Copies of this form may be obtained from the Acquisition Department of the University Libraries. The candidate records at the end of the abstract, or dissertation, the number of words which it contains. The abstract (including brief dissertations) are printed in two annual volumes. Extra sheets of each abstract will be printed and held for assembly in departmental pamphlets, which will be published as soon as the volume of material in any department warrants it. The candidate pays to the University Cashier a fee of $6.00 a page (of 350 words) toward the cost of this publication. In cases of exceptional difficulty of printing, the foregoing rate may be increased.

The candidate is at liberty to publish his dissertation through such channel and in such way as he sees fit; provided, however, that if the dissertation is in any way modified after its acceptance by the University, he is not at liberty to publish it as the dissertation accepted for his degree, unless the modifications have been approved by the department concerned.

The University Libraries will, upon request, accept and distribute to other libraries one hundred printed copies of the dissertation, if printed in acceptable form for such circulation.

4. *Final examination.*—After admission to candidacy the student may present himself for examination as soon as he has fulfilled (*a*) the requirements of the department, (*b*) the modern language requirement, and (*c*) the dissertation requirements (see 3, p. 24). The examination will be oral and will be conducted by a committee consisting

of members of the department or departments concerned, and two representatives of other departments, appointed by the Dean. The candidate is required to prepare a typewritten or printed brief of his work, including an analysis of the dissertation, and to file six copies of the same with his Dean for distribution to the committee one week before the time set for the examination.

5. *Non-resident work.*—After being admitted, the student may be allowed to substitute non-resident work for resident work to a limited extent, under conditions to be arranged in consultation with the Dean and the heads of the departments concerned.

6. *Work done in other universities.*—Graduate work done in another university will be accepted as equivalent to resident work in the University of Chicago, provided the institution in which the work was done is of high standing, and adequate evidence is furnished that the work done there was satisfactorily performed. Graduate work done in other institutions, and credit allowed for non-resident work, cannot reduce the residence requirement at the University of Chicago to a period of less than one year.

GENERAL INFORMATION FOR STUDENTS ENTERING THE THIRD- AND FOURTH-YEAR CLASSES AT RUSH MEDICAL COLLEGE

Attendance.—In order to be credited properly with attendance on any given term or course, it is imperative that students be present at the opening of each quarter. *After the second day of any quarter no student can register except by special consent of the Dean and the payment of $5.00 late registration fee.* The state boards of medical licensure require that a student must be in attendance during 80 per cent of the scheduled hours in any course for which he is registered in order to receive credit for the course.

Matriculation.—Each student matriculates on entering the University for the first time, but not for subsequent quarters. The matriculation fee of the University is $10.00. The University Cashier has a representative at Rush Medical College.

Registration.—Each student registers before or at the beginning of each quarter by filing a registration card.

In case of early registration this card is retained at the Registrar's office and *must be reclaimed by the student in person on the first or second day of the quarter. If not reclaimed at the time, the student's registration for the quarter will be canceled, and can be restored only by the consent of the Dean and the payment of* $5.00 *late registration fee.*

The Dean will issue a card certifying admission to the proper class and will advise respecting the courses of study to be taken.

THE YOUNG MEN'S CHRISTIAN ASSOCIATION

A branch of the Young Men's Christian Association is in active operation at Rush Medical College, and the headquarters of the West Side Association are situated within a short distance of the College buildings. Membership in the Association, with the privilege of gymnasium, bathrooms, lecture courses, etc., may be obtained by application to the Rush Medical branch of the Association.

THE DEPARTMENT OF PHYSICS

OFFICERS OF INSTRUCTION

ALBERT ABRAHAM MICHELSON, PH.D., SC.D., LL.D., F.R.S., Distinguished Service Professor and Head of the Department of Physics.
HENRY GORDON GALE, PH.D., Professor and Chairman of the Department of Physics.
ARTHUR HOLLY COMPTON, PH.D., Professor of Physics.
HARVEY BRACE LEMON, PH.D., Associate Professor of Physics.
ARTHUR JEFFERY DEMPSTER, PH.D., Associate Professor of Physics.
GEORGE SPENCER MONK, PH.D., Assistant Professor of Physics.
WILLIAM WELDON WATSON, PH.D., Instructor in Physics.
JARED KIRTLAND MORSE, S.B., Research Associate in Physics.
FRANK CLARK HOYT, PH.D., Research Associate in Physics.
MELVIN MOONEY, PH.D., National Research Fellow in Physics.
YUI HSUN WOO, PH.D., Research Assistant in Physics.
BARTON HOAG, A.B., Assistant in Physics.
FRANK COBB MCDONALD, S.M., Assistant in Physics.
FRANK MARSHALL DURBIN, S.M., Assistant in Physics.
RICHARD LLOYD DOAN, A.B., Assistant in Physics.
MARION LLEWELLYN POOL, S.B., Assistant in Physics.
DONALD DOOLEY, S.M., Assistant in Physics.
JOYCE ALVIN BEARDEN, A.B., Assistant in Physics.

VERGIL CLAYBOURNE LOHR, S.B., Instructor in Physics, Junior College, University High School.

HAROLD ALBERT WILSON, F.R.S., A.M., SC.D., Professor of Physics, Rice Institute (Summer, 1926).
EDWIN CRAWFORD KEMBLE, PH.D., Assistant Professor of Physics, Harvard University (Summer, 1926).

FELLOWS, 1926–27

CHARLES S. BARRETT, S.B.
WILLIAM RUSSELL FREDERICKSON, S.B.
IRA MAXIMILIAN FREEMAN, S.B.
ALFRED CARL HAUSSMAN, A.M.
JOHN LESLIE HUNDLEY, A.M.
HOWARD MILLARD OLSON, S.B.

INTRODUCTORY

The instructional work in Physics is directed toward the following ends: (1) the training of original investigators in physics; (2) the training of men competent to fill college and university positions as teachers of physics; (3) the training of teachers of physics for secondary schools; (4) the training of pre-engineering and premedical students for later professional work; (5) the training of the general student in scientific methods of work and in the understanding of the place of physical science in the modern world. From the most elementary to the most advanced courses the laboratory and the problem method of instruction are emphasized.

FACILITIES

The Ryerson Physical Laboratory has been enlarged and remodeled with especial reference to offering the best facilities for research work. The entire lower floor and basement are given up to private research-rooms. A well-equipped shop, with skilled instrument-makers, furnishes opportunity for the construction of special pieces of research apparatus. The equipment has been selected with reference to the needs of research, and includes spectroscopic instruments of highest power, electrical apparatus for work in alternating and direct currents through large ranges of potential, extensive X-ray equipment, and appliances for high- and for low-temperature work. The library of the Department is well equipped for research purposes. A Physics Club is conducted by the members of the Department, and meets regularly for the discussion of the results of research work done in the Ryerson Laboratory and elsewhere. Before undertaking research work in the Laboratory, candidates must satisfy the department that their previous training and experience is such as to justify placing the facilities and equipment of the Laboratory at their disposal.

COURSES AVAILABLE FOR UNDERGRADUATE SEQUENCES

111, Mechanics; 112, Electricity; 113, Heat, Sound, and Light; 121, Mechanics, Molecular Physics, and Heat; 122, Electricity, Sound, and Light; 205, Lecture Demonstrations in Physics; 215, Elementary Wireless Telegraphy; 251, Elementary Mathematical Physics; 252, Heat and Molecular Physics; 253, Light; 254, Electricity and Magnetism; 281, Pedagogy of Physics; 255, Mechanics and Wave-Motion; 262, 263, 264, 265, Experimental Physics; 270, Physical Manipulation; Astronomy 205, 206, Analytic Mechanics; Education 350, Educational Psychology; 101, Introduction to Education; Astronomy 103, 104, Descriptive Astronomy; Mathematics 215, 216, Calculus.

Graduate courses in the Department may be substituted for courses 251 to 264 by students who have the prerequisites.

PRINCIPAL SEQUENCES

a) Courses 111, 112, 113, or 121, 122, 205, and any six majors chosen from courses 215 to 254.

Physics and Mathematics

b) Courses 111, 112, 113, or 121, 122, 205, and any six majors from the following: Mathematics 215, 216; Astronomy 305, 306, and Physics 215 to 259, 255 to 276.

Teacher's Sequences

c) Courses 111, 112, 113, or 121, 122, 205; three majors from 251 to 254, 262 to 265; 281; Education 250 and Philosophy 207.

Physics and Astronomy

d) Courses Physics 111, 112, 113, or 121, 122, 207; Astronomy 103, 104, with four majors selected from Physics 215–65, and Mathematics 215, 216.

Physics and Chemistry

e) Courses Physics 111, 112, 113 or 121, 122, 207; Chemistry 104, 105, and four majors selected from Physics 215–65, and Mathematics 215, 216.

In any of the foregoing sequences graduate courses numbered 301 to 395 may be substituted for courses 215 to 265 by students who have the required prerequisites.

SECONDARY SEQUENCES

a) Courses 111, 112, 113, or 121, 122, 205; and three advanced majors in Physics.

b) Courses 111, 112, 113, or 121, 205, and three majors from the following: 215 to 265, Astronomy 103, 104, Chemistry 104, 105; Mathematics 215, 216.

DEGREES

The Bachelor's degree.—All candidates for the S.B. degree who elect their major work in Physics are required to take courses 111, 112, and 113 and either six majors selected from courses 215, 251, 252, 253, 254, 255, 262, 263, 264, 265, 270, 271, and 276, or three of these and three Senior College courses in one of the following departments: Mathematics, Astronomy, Chemistry, or Geology.

The Master's degree.—Candidates for the Master's degree in Physics are required to take eight majors in Physics and related subjects, and to present in addition a dissertation embodying the results of a laboratory problem.

The student should have as prerequisite at least two of the majors 251, 252, 253, 254 and at least two of the majors 262, 263, 264. For the Master's degree at least six of the majors offered shall be from courses numbered 300 or above.

The degree of Doctor of Philosophy.—Candidates for the Doctor's degree with Physics as a minor subject must take four of the following courses: 251, 252, 253, 254, 262, 263, 264, 265, and five additional majors of graduate work. When Physics is one of two minor subjects, the courses must be arranged by consultation with the Department.

All candidates for the Doctor's degree with Physics as the major subject must take or be familiar with the subject matter of the following courses: 251, 252, 253, 254, 262, 263, 264, 265. They must during their course of study acquire a knowledge of the main classical branches of Physics: mechanics, optics, electricity, electromagnetic theory, and thermodynamics as well as the modern development in physical theory. For the final examination the candidate must offer at least twelve courses selected from those listed between 300 and 400 in the announcement of the Department of Physics, or equivalent courses substituted with the approval of the Department from the courses listed under Applied Mathematics. Each candidate must also present a dissertation embodying the results of original research in some subject approved by the Department. The time required for the dissertation work generally varies from three to six quarters.

Candidates should feel free to consult members of the Department at all times as to difficulties encountered in the solution of problems. When publishing results of their work, it is customary for students to acknowledge especially important advice, or continual assistance, and, in case the problem was proposed by a member of the Department, to mention that fact.

With the usual relations of professor and student, it is not customary for results embodied in the dissertation of a candidate for the Ph.D. degree to be published in collaboration with a member of the Department. Material which has been published jointly with another author, or is to be so published, may not be included in the dissertation. Theses for the Master's degree, on the contrary, may be fittingly published as joint papers, in case a member of the Department has assisted the student in carrying out the work.

PREPARATION FOR TEACHING

Students preparing to teach Physics in secondary schools are expected to have completed courses 111, 112, 113, 281, and not less than four of courses 251, 252, 253, 254, 255, 262, 263, 264, 265, 271, and 276. See also courses in Physics in the School of Education.

LABORATORY FEE

There is a laboratory fee of $6.00 for all major courses involving laboratory work in the Department of Physics.

COURSES OF INSTRUCTION

For explanation of the numbering system, see page 18.

101. Elementary Physics.[1]—A first course in the elements of Physics designed primarily for students who do not present entrance Physics. Prerequisite: Algebra and Plane Geometry, one unit each. Mj. Autumn, 12:30–2:30 and 2:30–4:30; Winter, 12:30–2:30. [Given in the Junior College, University High School, MR. LOHR.]

102. Elementary Physics.[1]—A continuation of the preceding course, covering the subjects of electricity, sound, and light. Prerequisite: Physics 101. Mj. Winter, 2:30–4:30; Spring, 12:30–2:30 and 2:30–4:30. [Given in the Junior College, University High School, MR. LOHR.]

111. Mechanics.—A general college course in mechanics presented mainly from the experimental point of view, but including one demonstration lecture each week at 4:30 P.M. Prerequisite: entrance Physics or Physics 102. Mj. Autumn, 4 sections, 8:00–10:00, 10:00–12:00, 1:30–3:30, 3:30–5:30, ASSOCIATE PROFESSOR LEMON, DR. WATSON, MR. DURBIN, MR. DOAN; Winter, 3 sections, 8:00–10:00, 10:00–12:00, 1:30–3:30, ASSOCIATE PROFESSOR LEMON, MR. POOL, MR. MORSE, MR. MCDONALD.

112. Electricity.—A general college course in electricity, presented mainly from the experimental point of view, but including one demonstration lecture each week at 4:30 P.M. Prerequisite: Physics 111. Mj. Winter, 4 sections, 8:00–10:00, 10:00–12:00, 1:30–3:30, 3:30–5:30, ASSOCIATE PROFESSOR LEMON, DR. WATSON, MR. DURBIN, MR. DOAN; Spring, 3 sections, 8:00–10:00, 10:00–12:00, 1:30–3:30, ASSOCIATE PROFESSOR LEMON, MR. DOAN, MR. MORSE, MR. MCDONALD.

113. Heat, Sound, and Light.—A general college course in heat, sound, and light, presented mainly from the experimental point of view, but including one demonstration lecture each week at 4:30 P.M. Prerequisite: Physics 112. Mj. Autumn, 2 sections, 8:00–10:00, 10:00–12:00, ASSOCIATE PROFESSOR LEMON, MR. MCDONALD, MR. MORSE; Spring, 3 sections, 8:00–10:00, 10:00–12:00, 1:30–3:30, ASSOCIATE PROFESSOR LEMON, DR. WATSON, MR. DURBIN, MR. ———.

121. Mechanics, Molecular Physics, and Heat.—A general college course in mechanics, molecular physics, and heat presented from the experimental point of view, not containing demonstration lectures. Prerequisite: entrance Physics or Physics 102 and Trigonometry. Mj. Summer, 7:00–9:00, MR. DURBIN; Spring, 10:00–12:00, MR. POOL.

122. Electricity, Sound, and Light.—A general college course in electricity, sound, and light presented from the experimental point of view, not containing demonstration lectures. Prerequisite: Physics 121 or Physics 111 and 112. Mj. Summer, 10:00–12:00, MR. DOAN; Autumn, 2 sections, 8:00–10:00, 12:30–2:30, MR. POOL, MR. HOAG.

205. Lecture Demonstration Course.—A course of demonstration lectures covering the entire field of Physics designed to supplement courses 121 and 122. Especial attention is given to modern points of view; the kinetic theory of heat, the atomic theory of electricity, and the electrical theory of matter receiving especial attention. The attempt is made to repeat a majority of the classical demonstrations of Kelvin, Faraday,

[1] Limited-credit course: After a student has credit for 18 majors but less than 27, these courses will be credited at one-half major each; after he has credit for 27 majors they will not be credited at all.

Thomson, and others. This course includes the demonstration lectures of courses 111, 112, and 113. Prerequisite: Physics 121 and 122 or their equivalent. Mj. Summer, 9:00, Mr. McDonald.

211. The Gas Motor.—Mj. Associate Professor Lemon. [Not given in 1926–27.]

215. Radio Telegraphy and Telephony I.—A course of lectures and laboratory work consisting of elementary consideration of the fundamental laws and their applications to the circuits of modern radio telegraph and telephone systems. Experimental adjusting of radio circuits. Prerequisite: Physics 111 and 112. Mj. Summer, 8:00–10:00; Spring, 8:00–10:00, Mr. Hoag.

251. Elementary Mathematical Physics.—A lecture course on the application of calculus to physics and chemistry, and practice in the solution of problems. Prerequisite: Physics 113 or 122, and Calculus. Mj. Autumn, 10:00, Professor Gale.

252. Molecular Physics and Heat.—A lecture course giving the theoretical background for the laboratory work of course 262. Viscosity, capillarity, diffusion, change of state, the fundamental principles of the kinetic theory, and an introduction to Thermodynamics. Prerequisite: Physics 113 or 121, and Calculus. Mj. Autumn, 1:30, Associate Professor Lemon.

253. Light.—A lecture course for advanced students covering the more important sections of geometrical and physical optics. Prerequisite: Physics 113 or 122, and Calculus. Mj. Winter, 10:00, Professor Gale.

254. Electricity and Magnetism.—A course in the mathematical theory of Electricity and Magnetism, with applications to electrical and magnetic apparatus and measurements. Prerequisite: Physics 113 or 122, and Calculus. Mj. Summer and Winter, 11:00, Dr. Watson.

262. Experimental Physics (Advanced): Molecular Physics and Heat.—A course of advanced laboratory work involving the determination of vapor pressures and densities, coefficients of friction of gases and liquids, molecular electrical conductivities, freezing- and boiling-points, latent and specific heats, high and low temperatures, radiation constants, etc. Prerequisite: Physics 113 or 121. Mj. Summer and Winter, 12:30–2:30, Mr. Bearden.

263. Experimental Physics (Advanced): Light.—A course of advanced laboratory work in Light, consisting of accurate measurements in diffraction, dispersion, interference, and polarization. Prerequisite: Physics 113 or 122. Mj. Autumn, 8:00–10:00, Assistant Professor Monk.

264. Experimental Physics (Advanced): Electricity and Magnetism I.—Laboratory work of the same grade as courses 262 and 263, but consisting of measurements in Electricity and Magnetism. Prerequisite: Physics 113 or 122. Mj. Summer and Spring, 2:30–4:30, Dr. Watson.

265. Experimental Physics (Advanced): Electricity and Magnetism II.—Laboratory work accompanied by lectures consisting of the theory and operation of dynamos, motors, transformers, and other electrical apparatus. Prerequisite: Physics 113 or 122. Mj. Autumn, 2:30–4:30, Dr. Watson.

276. Photographic Processes.—Lectures and laboratory work on the laws of photographic action. Effects of exposure and development on opacity and density; orthochromatism, plate grain, speed, intensification, reduction, and the applications of these to the photography of exceptional subjects. Prerequisite: Calculus. Mj. Spring, 1:30–3:30, Associate Professor Lemon.

301, 302, 303. Theoretical Physics.—A series of lectures chiefly in Theoretical Physics, Hydrodynamics, Elasticity, Capillarity, Molecular Physics, Thermodynamics, Wave-Motion, Sound, Optical Theories, Electricity and Magnetism. 4 hours a week. Prerequisite: Physics 251, 252, 253, and 254, or equivalent, and Calculus. Mj. Autumn, Winter, and Spring, 11:00, Professor Michelson.

306. Thermodynamics.—First and second laws of thermodynamics, change of state, theory of solutions, chemical equilibrium in solutions and gaseous systems, electrochemistry and concentration cells, chemical equilibrium and affinity. Nernst's theorem. M. Summer, First Term, 11:00, Professor Wilson.

307. Thermodynamics.—Mj. Associate Professor Dempster. [Not given in 1926–27.]

308. Electrodynamics I.—Development of the field equations and their energetic and dynamic consequences; theory of electrons and propagation of electromagnetic radiation in space. Prerequisite: Vector analysis; differential and integral calculus. Mj. Winter, 8:00, Dr. Hoyt.

309. Electrodynamics II.—Radiation from a moving source; propagation of light through matter; introduction to relativity theories and temperature radiation. Prerequisite: Physics 309. Mj. Spring, 8:00, Dr. Hoyt.

310. Electrodynamics and Electron Dynamics.—A brief view of electrostatics and magnetism, followed by a study of electrodynamics, electromagnetic radiation, and the motion of electrons considered from the standpoint of the special theory of relativity. Prerequisite: Physics 254 or equivalent. Mj. Summer (or M. either Term), 8:00, Professor Compton.

321. Kinetic Theory of Matter.—Gas laws, pressure theory, specific heats, modern atomic theory; Maxwell's distribution law, equipartition, infra red spectra; mean free path, viscosity, heat conduction, diffusion; methods of integral equations; electrons and ions in gases; Van der Waal's equation, Joule-Thomson effect; gases at low pressures; equilibrium under forces, emulsions; second law of thermodynamics, fluctuations, Brownian movements; kinetic theory of solids, specific heats. Prerequisite: Physics 252 and Mathematics 247. Mj. Autumn, 9:00, Associate Professor Dempster.

326. Electron Theory I.—Cathode Rays, charge and mass of electron, scattering of alpha particles, nucleus atom, radioactivity, positive ray analysis, isotopes, atomic disintegration, nuclear structure; elements of Bohr's theory, periodic table and atomic structure radiation and ionization potentials. Prerequisite: College Physics and Calculus. Mj. Winter, 9:00, Associate Professor Dempster.

327. Electron Theory II.—Canal Rays, alpha rays in gases, free path of electrons, conduction in gases; thermionic emission, photo-electricity, arcs, energy exchanges with excited atoms, metallic conduction, theories of magnetism. Prerequisite: College Physics and Calculus. Mj. Spring, 9:00, Associate Professor Dempster.

331. Spectroscopy and Astrophysics.—Atomic and molecular spectra, new methods of excitation, spectra of ionized and stripped atoms, dissociated and excited molecules. Stellar spectral types, magnitudes, velocities. Spectroscopic method of determining distances. Elements and compounds in stellar atmospheres, spectra of unknown origin. Temperature ionization theories and tests. Astrophysical evaluation of important physical constants. Speculations relating to atomic and cosmic evolution. Prerequisite: Physics 113 or 122. Mj. Summer, 11:00, Dr. Monk; Winter, 1:30, Associate Professor Lemon.

336. X-ray Crystal Analysis.—Introduction to crystallography and geometrical theory of crystals, X-rays; analysis of single crystals by reflection, powdered crystal method, Laue spots; application of X-ray methods to determination of atomic radii; chemical analysis; density; molecular structure; etc. For students in Physics, Geology, Chemistry. Mj. Summer (or M. First Term), 1:30, Mr. Morse.

341, 342, 343. Experimental Physics.—A course of laboratory work, chiefly devoted to the repetition of classical experiments, such as Determination of the Mechanical Equivalent of Heat; Maxwell's "V"; Hertzian Oscillations; Relative and Absolute Wave-Lengths, etc. 10 hours a week. Prerequisite: Physics 262, 263, 264. Mj. or DMj. Summer, Autumn, Winter, Spring, Professors Michelson, Gale, Compton, and Associate Professor Dempster.

345. Radioactivity and Discharge through Gases.—A laboratory course for Senior College and graduate students. Absorption of radium rays, active deposits and their decay, radium determination, scintillations, range of α-rays, determination of "e" and "e/m" for electrons, discharge tubes, thermionic emission, three electrode tubes, electroscopes and electrometers. Prerequisite: consent of the instructor. Mj. Winter, 2:30–4:30, Mr. Hoag.

346, 347. Spectrometry I and II.—Laboratory work in photographing and measuring the spectra of various elements. Use of the quartz spectrograph, plane and concave gratings, echelon, and interferometer. Prerequisite: consent of the instructor. Mj. Winter and Spring, 2:30, Assistant Professor Monk.

348. X-Rays.—A laboratory course in the design and construction of X-ray tubes, the measurement of the intensity and absorption coefficients of X-rays, photographic and ionization methods of X-ray spectroscopy, and experimental methods of crystal analysis. Prerequisite: Consent of the instructor. Mj. Autumn, 12:30–2:30, Mr. Bearden.

349. Vector Analysis.—A course in the elements of three-dimensional vector analysis with applications to hydrodynamics, electrodynamics, wave theory of light and other physical subjects. Mj. Autumn, 8:00, Dr. Hoyt.

356. Modern Spectroscopy.—The Rutherford atom, the Bohr-Sommerfeld theory of atomic structure, ionization and radiation potentials, wave-length determinations, pressure shifts, pole-effect, spectral series, fine structure, Stark effect, Zeeman effect, etc. Prerequisite: two years of college Physics and Calculus. Mj. Summer and Spring, 10:00, Professor Gale.

357. The Quantum Theory and the Interpretation of Spectra.—Development of the principles of the Quantum Theory and their application to line spectra including a discussion of the correspondence principle in relation to spectroscopic problems. M. Summer, First Term, 9:00, Assistant Professor Kemble.

358. Band Spectra.—Application of the Quantum Theory to selected problems, with emphasis on band spectra and molecular structure. M. Summer, Second Term, 9:00, Assistant Professor Kemble.

361. X-Rays and Their Application to Physical Problems.—Mj. Professor Compton. [Not given in 1926–27.]

362. X-Rays and Electron Theory.—Mj. Professor Compton. [Not given in 1926–27.]

363. X-Rays and Quantum Theory.—The high frequency limit of the X-ray spectrum, the velocity and space distribution of secondary β-rays, quantum theory of X-ray scattering, quantum theory of crystal diffraction, origin of X-ray spectra and the structure of the heavy atoms, quantum theory of X-ray absorption and of the continuous X-ray spectrum. Prerequisite: Physics 362. Mj. Spring, 1:30, Professor Compton.

376. Fluid Motion.—A course of lectures accompanied by a few demonstration experiments on the mechanical principles of flight. Dynamic similitude, elementary aërodynamics of fluid resistance, and the classical theory of Rayleigh form the principal theoretical topics. The empirical relations derived from wind tunnel experiments on flat and cambered aërofoils are discussed. Mj. Associate Professor Lemon. [Not given in 1926–27.]

392. Quantum Mechanics.—The new quantum mechanics of Heisenberg and Born, with applications, preceded by a development of the matrix calculus and the necessary dynamics. Prerequiste: Physics 356 or equivalent. Mj. Summer (or M. either Term), 2:30, Dr. Hoyt.

401, 402, 403, 404. Research Course.—This course is intended for graduate students who are prepared to undertake special research. Except in the case of a purely mathematical problem, the entire time is to be devoted to work in laboratory. Mj. or DMj. Summer, Autumn, Winter, and Spring, Professors Michelson, Gale, Compton, and Associate Professor Dempster.

416. Research Course.—Modern methods of spectroscopic investigation applied to problems in general spectroscopy and its astrophysical applications, particularly thermionic methods of excitation where quantitative control of electrical conditions is possible and interpretation thereby facilitated. Open to graduate students only who have had at least three majors previously in graduate Physics courses. 1 to 6 majors, depending on the nature of work assigned and the time required for its completion, which may be from one quarter to two years. Weekly meeting in connection with this course. Mj. Autumn, Winter, Spring, Associate Professor Lemon.

499. Physics Club.—This organization, consisting of all instructors and graduate and advanced students in the Department, meets on Thursday of each week from 4:30 to 6:00 for the discussion of recent research.

Applied Mathematics.—For special announcement of courses in Applied Mathematics offered by the Departments of Mathematics, Astronomy, and Physics, see p. 274.

THE DEPARTMENT OF CHEMISTRY

OFFICERS OF INSTRUCTION

JULIUS STIEGLITZ, PH.D., SC.D., CHEM.D., Professor and Chairman of the Department of Chemistry.

WILLIAM DRAPER HARKINS, PH.D., Professor of Chemistry.

HERMANN IRVING SCHLESINGER, PH.D., Professor of Chemistry; Secretary of the Department.

ETHEL MARY TERRY-MCCOY, PH.D., Assistant Professor of Chemistry.

JOHN WILLIAM EDWARD GLATTFELD, PH.D., Assistant Professor of Chemistry.

BEN H. NICOLET, PH.D., Assistant Professor of Organic Chemistry.

MARY MEDA RISING, PH.D., Assistant Professor of Chemistry.

WILLIAM ALBERT NOYES, JR., D.-ÈS-SC., Assistant Professor of Chemistry.

ADELINE DE SALE LINK, PH.D., Instructor in Chemistry.

THOMAS FRASER YOUNG, PH.D., Instructor in Chemistry.

LESLIE HELLERMAN, PH.D., Research Instructor in Organic Chemistry.

CLEMMY OLIN MILLER, A.B., Instructor in Chemistry and Curator.

ARTHUR PRESTON LOCKE, PH.D., Seymour Coman Fellow in Medical Chemistry.

HANS GOTTLIEB-BILLROTH, PH.D., International Fellow in Organic Chemistry.

HUGH ALLEN SHADDUCK, S.B., Research Assistant in Physical Chemistry.

JOHN ALPHEUS BENDER, S.B., S.M., Assistant in Organic Chemistry.

RACHEL FULLER BROWN, A.B., S.M., Assistant in Chemistry.

HARLAND CALEB EMBREE, S.B., S.M., Assistant in Physical Chemistry.

FRANK GRAHAM FRESE, S.B., Assistant in Physical Chemistry.

WESLEY NORMAL HERR, S.B., S.M., Assistant in Quantitative Analysis.

PERRY YATES JACKSON, S.M., Assistant in Chemistry.

LOUIS STEVENSON KASSEL, S.B., Lecture Assistant.

ALEXANDER WATT THOMSON LOVELESS, S.B., S.M., Assistant in Chemistry.

HAROLD LAWRENCE MASON, A.B., A.M., Assistant in Chemistry.

NICHOLAS ATHANASIUS MILAS, S.B., Assistant in General Chemistry.

GEORGINE ADOLPH MOERKE, S.B., S.M., Assistant in Organic Chemistry.

ISIDOR ELKANON MUSKAT, S.B., S.M., Lecture Assistant.

FRANKLIN BENJAMIN WITTMER, S.B., Assistant in Chemistry.

DELBERT EDMUND WOBBE, S.B., Assistant in Quantitative Analysis.

ERNST COHÉN, SC.D., Professor of Physical Chemistry, University of Utrecht, Holland (Summer, 1926).

JAMES KUHN SENIOR, PH.D., Instructor in Chemistry (Summer, 1926).

MEMBERS OF THE DEPARTMENT OF SCIENTIFIC RESEARCH, INSTITUTE OF AMERICAN MEAT-PACKERS

WINFORD LEE LEWIS, PH.D., Director of the Department of Scientific Research.

PAUL L. CRAMER, S.B., S.M., Research Chemist.

CHARLES DOAK LOWRY, JR., PH.D., Research Chemist.

FELLOWS, 1926–27

Arthur Edward Brooks, A.B., S.M.
James Bernard Culbertson, S.M. (Du Pont Fellow)
Dorothy Virginia Nightingale, A.B., A.M. (Edith Barnard Fellow)
Ewing Carruth Scott, A.B. (Swift Fellow)
Chandoo Nanchand Shah, S.M. (Loewenthal Fellow)
Ruth Maude Watts, S.B., S.M.
Tsch-Wu Zee, S.B., A.M.

INTRODUCTORY

The Department aims to prepare students (1) for government service, (2) to teach in colleges or universities, (3) to teach in secondary schools, (4) to fill positions as technical experts or assistants in chemical industries, (5) to become analysts in commercial and sanitary laboratories. The elementary courses may be taken with advantage by students having none of these ends in view.

Special stress will be placed on thoroughness of preparation and the symmetrical development of the student's knowledge. The object of the courses will be not so much to train specialists as to prepare the student to undertake intelligently all kinds of work of a chemical nature. Those intending to become practical chemists will find a thorough course of purely scientific chemistry the best basis for future specialization in any branch of the subject. Those who incline toward inorganic chemistry will be required to do much physical and a considerable amount of organic work; those proposing to become organic chemists will be required to do work in inorganic chemistry of a more advanced nature than that given in the elementary courses. The test of time and the experiences of the graduates of the Department have fully justified this form of training.

RESEARCH

Students are encouraged to begin research work as soon as their preparation justifies it. Facilities for research in all lines, whether of inorganic, organic, analytical, radioactive, or physical chemistry, are provided. Special opportunities to pursue entirely independent research work, as guests of the University (see p. 112), will be given to maturer students who have already obtained the Doctor's degree.

FELLOWSHIPS IN CHEMISTRY

Besides a number of general University Fellowships which are usually allowed to the Department for candidates for the Ph.D. degree, there are four specially endowed Fellowships in Chemistry with a return of from $950 to $180 per year (three quarters): the Swift Fellowship, endowed by Mrs. Gustavus F. Swift; the Du Pont Fellowship, granted by the E. I. du Pont de Nemours Company; the Loewenthal Fellowship, a memorial to Joseph B. Loewenthal; and the Edith Barnard Fellowship, a memorial to Edith Barnard, a former instructor, donated by her friends and family.

SCHOLARSHIPS IN CHEMISTRY

Besides the regular University Scholarships which are available for graduate and undergraduate students in chemistry, there is a special scholarship in Chemistry, The Joseph B. Triner Scholarship, donated by Joseph B. Triner to be awarded to a Czecho-Slovak student entering the University from a Chicago high school for work in Chemistry.

ARRANGEMENT OF COURSES

A limited number of courses numbered from 250 to 299 may be used to fulfil the requirements for advanced degrees, but only with the consent of the head of the Department. In each of the four divisions, 101–199, 201–299, 301–399, and 401–499, courses 1–19 are in General and Inorganic Chemistry; courses 20–39, Organic Chemistry; 40–59, Analytical Chemistry; 60–79, Physical Chemistry; 80–90, Subatomic Phenomena and Radioactivity; 91–99, Atomic Structure and Colloids. This classification is not followed in research courses, nor is it possible to make the classification sharp in all cases.

REVISED COURSE NUMBERING

Old Number	New Number	Old Number	New Number	Old Number	New Number
1	101	41	336	78	383
2	102	42	333	82	475
3	103	43	334	90	420
2S	104	44	335	91	421
3S	105	46	330, 331	92	422
4, 4S	120	47	337	93	423
5	121	48	338	94	424
6	140	49	334	95	425
7	141	50	305	96	426
8	240	51	306	97	427
8M	241	55A	301	98B	401
9	242	55B	302	98C	402
10	250	55C	303	98D	403
12	251	55D	304	98E	404
13	252	57A	381	98F	405
20	261	57B	386	98G	406
24	291	58	391	98H	407
30	321	60	361	98I	408
31	322	61	362	100	450
32	323	62	363	101	460
33	320	63	364		
35	325	64	382		
36	326	75	387		
38	350	76	370		
39	351	77	388		
40	328				

REQUIREMENTS FOR DEGREES

THE DEGREE OF BACHELOR OF SCIENCE

Chemistry may be taken as a major subject to fulfil the requirement for a principal sequence or as a minor subject to fulfil the requirement for a secondary sequence. Guidance as to a more thorough preparation in college for professional Chemistry is given below (p. 281).

I. PRINCIPAL SEQUENCES

1) Courses 102, 103 (or 104, 105), 120, 140, 141, 240, 261, and any other two courses in the Department except 101. Pre-medical students may substitute 121 or one major of college physics for 141.

2) Combination with other science departments:[1] For the two non-specified courses in sequence (1) above, the Department will accept either two majors of Physiological Chemistry, or two Senior College majors in Chemistry of Foods and Dietetics, provided these courses follow courses 120 and 240 in Chemistry

[1] Recommendation for appointment to teach Chemistry in a secondary school requires at least courses 102, 103 (or 104, 105), 120, 140, 141, 240, and 261. (See p. 41.)

II. SECONDARY SEQUENCES

a) For students specializing in Physics: courses 102, 103 (or 104, 105), 120, 140, 141, and 240.

b) For students specializing in Biological Science: courses 102, 103 (or 104, 105), 120, 140, 240, and 261. Course 121 is strongly recommended as an additional major.

c) For students specializing in Geology: courses 102, 103 (or 104, 105), 140, 141, 240, 242. The Department strongly advises courses 120, 250, 1 or ½ major chosen from courses 251, 252, and especially 261.

THE MASTER'S DEGREE

For the Master's degree in Chemistry a dissertation and eight majors of graduate work in Chemistry are required if all the work is in Chemistry. These majors must be selected, with the approval of the Chairman of the Department, from courses in advance of 249 (with the exception of 261). Courses 140 and 141 (Qualitative Analysis), 240 and 242 (Quantitative Analysis), and 261 (Elementary Physical Chemistry) are prerequisite to graduate work but cannot be counted in reckoning the eight required majors. [NOTE.—This regulation as far as course 261 (Elementary Physical Chemistry) is concerned, will not apply to candidates already enrolled who have completed at least three majors of graduate work before June, 1926. Such students may offer 261 as a graduate course until October, 1927.] At least one course in Organic Chemistry must be included in the courses if it has not been taken before. When the dissertation work is in Organic Chemistry, course 351 (a half-major) must be taken.

Up to two chemistry courses given in the Department of Physiological Chemistry, Geology, and Home Economics may be included in these eight majors with the approval of the Chairman of the Department.

The eighth major of graduate work will be devoted to specific preparation (in residence) for the dissertation, either in the laboratory (research) or in the library (historical work).

Reading knowledge of German or French will be required, which must be certified before work for the dissertation is undertaken. *Note.— After June 15, 1927, a reading knowledge of German (not French) will be specifically required.*

Courses leading to the Master's degree in the Chemistry of Nutrition are given in the Department of Home Economics in conjunction with other departments.

THE DEGREE OF DOCTOR OF PHILOSOPHY

I. *Chemistry the primary subject.*—When the degree of Doctor of Philosophy in Chemistry is desired, the branch of chemistry touched by the dissertation is offered as a *major* subject and some other branch of chemistry as the *first minor* subject. Besides this, a sufficient knowledge of other fundamental phases of the science is required as well as sufficient work in a *second minor* subject in some other department. These conditions are complied with when the following specific requirements are fulfilled:

1. The presentation of a dissertation embodying the result of original research in General, Inorganic, Analytical, Organic, Physico-organic, Physical Chemistry, Radioactivity, or Photo-Chemistry. This must constitute a real contribution to knowledge, and the work is usually done under the direction of an officer of the Department.

2. The general requirements for all candidates, in advance of General Chemistry: courses 120,[1] 140, 141, 240, 242, 261.

[1] Course 120 may be omitted by graduate students when advanced work in Organic Chemistry is taken.

Notice: After October 1, 1926, a candidate for the Ph.D. degree, before being assigned a research problem, aside from having the specific preparation indicated in the next paragraph (4), *will be tested by a written examination as to his mastery of the fundamentals of chemistry* as represented by these general requirements (including General Chemistry). Emphasis will be put on the mastery of principles, on facts of general importance, and on experimental methods of general application. The examination should be taken in the same quarter as the course introductory to research (see par. 4), or in an earlier quarter at the option of the candidate or, for students who come prepared to start research at once, in a later quarter with permission of the department.

3. One year of College Physics and at least the elements of calculus.

4. In addition to the above, one of the following specific sets of requirements, arranged according to the thesis subject:

General Chemistry and Inorganic Chemistry: courses 301–4, 305, 306, 325 (or 321 and 322), 361, and 362, and one major taken from courses 250–52, 321–26, 350, 337, 338; *Organic Chemistry:* courses 305, 321–23 (lectures only), 325,[1] 326, 351, 361 (lectures only) and 362 or 363. *Physico-organic Chemistry:* courses 305, 321–23 (lectures only), 325, 326, 361, 362, and one major taken from courses 250–52, 306, 337, 338, 350, 351, and 363. *Physical Chemistry:* courses 301–4, 305 (lectures), 321–23, 325, 361, 362, 363, and one major taken from courses 250–52, 306, 321–23, 326, 337, 338, 350, 364. *Radioactivity* or *Photo-Chemistry:* courses 301–4 or 321–23 (lectures), 305, 361, 362, 363, 387, 388, and Physics 326 (Electron Theory), and one major taken from courses 250–52, 321–23, 325, 350. In addition to one set of these specific requirements at least six half-majors will be chosen from the special courses 291, 321–23 (for students not specializing in organic chemistry), 301–4 (for students not specializing in inorganic chemistry), 328–39, 361–63 (for students not specializing in physical chemistry), 370–99. As a final test of preparation for research work a candidate for the degree who has fulfilled the preliminary requirements (see 2 and 3) will take, after conference with the Chairman of the Department, a major of work introductory to research in one of the courses 420–29, and the examination described in § 2 before being assigned a problem. The research work will require from four to six quarters. Courses leading to the Ph.D. in the Chemistry of Nutrition are given in the Department of Home Economics in conjunction with other departments.

5. Sufficient work of an advanced character in another department to make a *second minor of three majors.* The following are the requirements for such a minor in various departments: (*a*) In *Physics:* three of the courses 252, 253, 254, 262, 263, 264, or any more advanced course; courses 111, 112, 113 are prerequisite to these. (*b*) In *Physiological Chemistry:* three majors selected from 201, 205, 301, 313, 315, 321, or 401. (*c*) In *Geology:* courses 215, 216, and 352 or their equivalent. Courses 270 or 289, and 301, 211, 212 are prerequisite to these courses. (*d*) In *Geography:* courses 226, 305, and their prerequisite courses. (*e*) In *Hygiene and Bacteriology:* course 301 and two majors in course 410; courses 202, 203, and 210 are prerequisite to these. With permission, course 304 or 308 may be substituted for course 301. (*f*) In *Home Economics* (Food Chemistry and Nutrition): 3 majors selected from courses 216, 312, 314, 315, 320, or 429. (*g*) In *Physiological Chemistry* and *Food Chemistry:* any three courses listed under (*b*) and (*f*), but Physiological Chemistry 201 and Home Economics 216 must not *both* be offered, nor both Physiological Chemistry 205 and Home Economics 312.

[1] Course 325 will be omitted when courses 321, 322 have included laboratory work.

I. *Chemistry the secondary subject.*—When Chemistry is a secondary subject, the requirement is determined after conference with the Head of the Department in which the major work is done. Courses 140, 141, and 240, and five other majors in advance of 240, will be required when Chemistry is the only secondary subject; courses 140, 141, and 240, and two other majors, when Chemistry is one of two secondary subjects. Elementary Physical Chemistry or Organic Chemistry, according as the major subject belongs to the Physical or the Biological Group, is recommended. When Physics is the major subject and Chemistry the minor, five majors beyond course 240 will be required with emphasis on Quantitative Analysis and Organic Chemistry.

SPECIAL STUDENTS

Special or unclassified students, not candidates for a degree, will be received, but in every case they will be required to give evidence, satisfactory to the instructors, that their previous training has been sufficient to enable them to derive full profit from the courses they propose to take.

PREPARATION FOR PROFESSIONAL WORK

UNDERGRADUATE WORK

I. For the college student who wishes to use his work for the Bachelor's degree as an opportunity toward preparation for professional work in Chemistry, a careful and logical selection of his courses during the four years of his college work is invaluable in the interest of a broad and adequate preparation with a minimum of wasted effort. For the benefit of such a student the following outline of essential courses is given with an indication of the sequence in which these are best taken. Students taking this course will be given the preference, other qualifications being equal, in recommendations for appointments for which they are fitted (see II below).

A. *General Outline of College Work*

(1) *English*, 2 majors, required of all college students in their first year. (2) *Chemistry*, 15 to 18 majors, to be described below. The student should start in his first year (Autumn or Summer) with Chemistry 101 or, if he has had high-school Chemistry, with 104. (Entrance Physics is a prerequisite, and Physics 101 and 102 should be taken in the student's first two quarters if he has not had high-school Physics.) (3) *Physics*, 2 or 3 majors. Physics 111, 112, and 113 or 121 and 122 for students who have had Trigonometry. This work should be taken in the student's first or second college year. (4) *Mathematics*, 3 majors (at least). Courses 101, 102, 103, and 215 in Mathematics, covering college algebra, trigonometry, analytical geometry, and elementary calculus, are recommended for the student's first or second year. Advanced work in Calculus is desirable. (5) *Biology*, 1 or 2 majors. Zoölogy 103 or 105 or Botany 101 for students who have not had high-school work in Biology. (6) *German*, 3 majors (or two years of high-school German). A knowledge of scientific German is greatly to be desired for advanced work in Chemistry. The student is advised to take the German in his *second* (not in his first year) or third college year, preferably as extra work. *French* may be well taken in the same way. (7) *Elective*, 7 to 11 majors, or more, if high-school work included Trigonometry, German, Physics, Biology, and Chemistry.

B. *Sequence of Fundamental Courses in Chemistry*

(1) *General Inorganic Chemistry*, first year: 104 and 105 for students who have had high-school Chemistry, or 101, 102, and 103 for students who have not had admission

Chemistry. On recommendation of the instructor, the laboratory work of courses 103 or 105[1] may be omitted in the case of very able students and courses 120 or 140 (major) taken simultaneously with the lectures of courses 103 or 105. (2) *Qualitative Analysis*, 2 majors, courses 140 and 141. (3) *Quantitative Analysis*, 3 majors. Courses 240, 242, and a major from courses 251, 252. (4) *Organic Chemistry*, 3 to 3½ majors. Courses 120 and 121 and courses 321 (½ major, lectures, Autumn), 322, 323, or courses 120, 320, and 323. (5) *Physical Chemistry* (third and fourth years), 2 to 3 majors, beginning with course 261. (6) *Elective*, 5 to 6 majors, to be taken in advanced courses in analytical chemistry, organic chemistry, inorganic chemistry, physical chemistry, radioactivity, physiological chemistry (physiological chemistry 201, 205), chemistry of nutrition 101, or bacteriology 201, 202, 203, 210, with a view to specialization in one of these branches. Students are advised to consult very freely and early in their course with a Departmental Adviser, whose name may be secured at the Dean's office or at the office of Kent Chemical Laboratory, Room 19.

II. 1. *Preparation for Teaching:* For recommendations for minor appointments in universities and colleges the work represented by the principal sequence of 9 majors in Chemistry required for the Bachelor's degree (see p. 278), supplemented by from three to eight majors of advanced work in Chemistry, as outlined above, will be considered an adequate preparation.

The work represented by the specified courses in the principal sequence of 9 majors in Chemistry (see p. 278), required for the Bachelor's degree, is at present considered preparation for teaching in secondary schools. These include Chemistry courses 102, 103 (or 104, 105), 120, 140, 141, 240, and 261. Men will find it advisable to be prepared also to teach Physics, Mathematics, or Geology. Women will find it wiser to combine Chemistry with Home Economics, Physics, Physiography, Physiology, Botany, or Zoölogy.

Four majors of work in Education are required for the teaching of High School Chemistry in the North Central Association. The following courses are recommended: Education 101 or 201 (Introduction to Education); Education 204 (Methods of Teaching in High Schools); Education 208 (Class Organization, Management, and Testing in High Schools); and one from the following list: Education 206 (Physiology of High-School Subjects); Education 210 (History of Modern Education); Education 336 (The Administration and Supervision of High Schools); ed Natural Science 283 (The Teaching of General Science); or ed Natural Science 288 (The Teaching of High-School Chemistry).

2. *Preparation for Technological Work:* Students who have taken from ten to eighteen majors of work in the Department, as outlined in I, are able to fill satisfactorily positions as assistants in technical and analytical laboratories and, after some practical experience, to advance to positions of independent responsibility. The complete training represented by the work for the Ph.D. degree is recommended, however, as the wholly adequate preparation for those desiring to make a profession of chemistry.

3. *Preparation for Government Work:* For minor positions (e.g., junior chemist in the United States service) the Bachelor's degree is considered sufficient. The principal sequence in Chemistry, required for the degree, should be supplemented by *advanced* work in two or three branches of Chemistry (Inorganic, Organic, Physical, Analytical). If possible, the full course outlined under I A and B should be taken.

[1] When students are excused from laboratory work in Chemistry 105 on the basis of excellent work in 104, they will meet the instructor in 105 for 1 hour per week extra in the classroom for quiz and extra lecture work. One major of credit will be allowed for the course. No laboratory fee need be paid by these students.

The Department does not pledge itself to secure positions for those who have carried out any one of the above-recommended sets of courses; but, as a matter of fact, competent students find suitable places quickly, and in the past the demand for chemists has far exceeded the supply, particularly in the case of the *more completely* trained graduates (Ph.D.'s).

GRADUATE WORK

1. *Preparation for Teaching in University and College Positions:* (*a*) For recommendations for major appointments in the larger universities and colleges only students who have taken the degree of Doctor of Philosophy will be considered to have had an adequate preparation. For certain university positions marked ability in research evidenced in the work for the degree will be considered essential. An academic career of real promise demands as never before research ability and training, which should give a man the broader viewpoint of the past and the future of his science, as well as the enthusiasm for his subject as a living science, which are the earmarks of the inspiring teacher. (*b*) For recommendations for chairs in Chemistry in smaller colleges the preparation demanded for the Master's degree will for the present be considered sufficient.

2. *Preparation for Technical and Government Work:* Thorough scientific training in all branches of chemistry as required for the Doctor's degree forms the best preparation for a career as a chemical expert in any branch of chemical industry. With this preparation the principles and details of technical processes are quickly grasped, advances in industrial processes are intelligently followed, and newly discovered principles are readily applied. A broad preparation, including advanced work in physical chemistry and mathematics for the candidate specializing in organic or inorganic chemistry, and vice versa, is strongly recommended.

All the more important requests received from technical establishments specify a doctorate of philosophy, with its training to do research work as a fundamental requirement.

For the more important government positions in Chemistry the doctorate of philosophy is generally demanded as an essential condition for candidacy.

CHEMICAL SOCIETIES

The Kent Chemical Society is a club of students open to all those who have had six majors of Chemistry. The Society meets bi-weekly to listen to papers by members and others.

The Chemistry Journal Club includes the faculty members of the Department and all graduate students in Chemistry. It meets twice a month to discuss recently published papers and research work going on in the Department.

The Kappa Mu Sigma is a graduate sorority of faculty women and women working for graduate degrees in some field of Chemistry. Advanced undergraduate women of high standing are eligible to associate membership.

The Chicago Section of the American Chemical Society holds monthly meetings (except in summer) which the students of the University are welcome to attend. Membership in the Society is open to advanced students at special rates.

LABORATORY FEE

There is a laboratory fee of $6.00 per major for all courses involving laboratory work in the Department of Chemistry. A deposit of $5.00 for breakage is also required of each student and must be renewed each successive quarter of work.

COURSES OF INSTRUCTION

For explanation of the numbering system, see page 18.

NOTE.—*Undergraduate students, other than medical students, desiring to take any of the half-major courses offered by the Department are required to take in any given quarter two such half-major courses (equivalent to a major course).*

101. Elementary General Chemistry: Inorganic I.[1,2]—Prerequisite: preparatory Physics. DM. Summer, First Term. Classroom, 6 hours a week; laboratory, 12 hours a week, DR. HELLERMAN; Mj. Autumn. Classroom, 3 hours a week; laboratory, 6 hours a week, ASSISTANT PROFESSOR TERRY-MCCOY.

102. General Chemistry: Inorganic II (continuation of course 101).[2]—Prerequisite: Chemistry 101. DM. Summer, Second Term, DR. HELLERMAN; Mj. Winter, ASSISTANT PROFESSOR TERRY-MCCOY.

NOTE.—Course 102, Winter Quarter, is a continuation of course 101, but may be entered by those having credit for admission Chemistry.

103. General Chemistry: Inorganic III (continuation of course 102).[2,3]—Prerequisite: Chemistry 102. Mj. Spring, ———.

NOTE.—Courses 101, 102, and 103 are consecutive courses. Separate credit is given for each, but students are advised not to take one course only. The aim of these courses is to give a definite idea of the fundamental principles of chemistry, and not to overburden the student with a mass of unconnected facts. The lectures will be experimental to a considerable extent. The courses are designed to meet the wants, not only of those who wish to go more deeply into chemistry, but of all who wish to study the science as part of a liberal education.

104. General Inorganic Chemistry.[4]—For students who have had preparatory Chemistry. Prerequisite: preparatory Chemistry and preparatory Physics, one unit each. DM. Summer, First Term. Classroom, 6 hours a week; laboratory, 12 hours a week, DR. LINK; Mj. Autumn. Classroom, 3 hours a week; laboratory, 6 hours a week, PROFESSOR SCHLESINGER AND DR. LINK.

105. General Chemistry: Inorganic (continuation of course 104).[4]—DM. Summer, Second Term, DR. LINK; Mj. Winter, PROFESSOR SCHLESINGER AND DR. LINK.

NOTE.—Whenever, in exceptional cases, the preparation of a student in 102 or 104 justifies it, Qualitative Analysis may be substituted for 103 or 105.

120. Elementary Organic Chemistry, I.[4]—Prerequisite: Chemistry 103 or 105. Classroom, 3 hours a week; laboratory, 6 hours a week. DM. Summer, First Term, Classroom, 5 hours a week; laboratory, 12 hours a week, ASSISTANT PROFESSOR RISING; Mj. Autumn, ASSISTANT PROFESSOR GLATTFELD; Spring, ASSISTANT PROFESSOR NICOLET.

121. Elementary Organic Chemistry, II.[4]—Prerequisite: Chemistry 120 or its equivalent. Carbohydrates, amino-acids; the aromatic series. Classroom, 3 hours a week; laboratory, 6 hours a week. Mj. Winter, ASSISTANT PROFESSOR RISING.

140. Qualitative Analysis (introductory course).[4]—The lectures deal with the chemistry of the analytical reactions, and special attention is given to the development and application of the laws of equilibrium and of solutions. This course is, in an important sense, one in advanced General Chemistry. Classroom, 2 hours a week; laboratory, 8 hours a week. Prerequisite: Chemistry 103 or 105. Mj. Summer, MR. MILLER; Autumn, DR. YOUNG AND MR. MILLER; Winter, MR. MILLER; Spring, ASSISTANT PROFESSOR RISING.

141. Qualitative Analysis (continuation of course 140).—Mj. or DM. Summer, Autumn, Winter, and Spring, MR. MILLER.

NOTE.—Courses 140, 141, and 250 form a continuous course, which may be begun in any quarter. The aim of courses 140, 141, and 250 will be to train the student to do intelligent analytical work, based on a knowledge of the scientific principles of the subject, and to apply and amplify his knowledge of General and Physical Chemistry.

[1] Limited-credit course: After a student has credit for 18 majors but less than 27, these courses will be credited at one-half major each; after he has credit for 27 majors they will not be credited at all.

[2] The classroom parts of courses 101, 102, 103, 104, 105, 120, 121 or 140, may be taken without payment of laboratory fees by students who have had equivalent courses in Chemistry.

[3] Students who receive a sufficiently high grade in the classroom and laboratory work of courses 102 or 104 may be excused from the laboratory work of courses 103 or 105. Such students take the lectures of 103 and 105 as a half major and are permitted to take courses 120 or 140 simultaneously with the lectures of courses 103 and 105 if they so desire.

[4] Students who receive a sufficiently high grade in the classroom and laboratory work of courses 102 or 104 may be excused from the laboratory work of courses 103 or 105. Such students take the lectures of 103 and 105 as a half major and are permitted to take courses 120 or 140 simultaneously with the lectures of courses 103 and 105 if they so desire.

240. Quantitative Analysis (introductory course).—Chiefly laboratory work in gravimetric and volumetric analysis. Laboratory, 8 hours a week; classroom, 2 hours. Prerequisite: Chemistry 141. (May be taken simultaneously with course 141. Medical students will be admitted to the course after having taken course 140.) Mj. Summer, Autumn, and Winter, ASSISTANT PROFESSOR NOYES; Spring, DR. YOUNG.

241. Quantitative Analysis.—A special course for premedical and medical students giving the elements for gravimetric and volumetric analysis. Prerequisite: Chemistry 140. ½Mj. Summer, Autumn, and Winter, ASSISTANT PROFESSOR NOYES; ½Mj. Spring, DR. YOUNG.

242. Quantitative Analysis (continuation of course 240).—Laboratory, 8 or 16 hours; classroom, 1 hour a week. Mj. or DM. Summer, Autumn, and Winter, ASSISTANT PROFESSOR NOYES; Spring, DR. YOUNG.

NOTE.—Courses 240 and 242 form a continuous course which may be begun in any quarter.

250. Advanced Qualitative Analysis (continuation of courses 140 and 141).—Prerequisite: Chemistry 141 and 240. Mj. or DM. Spring, Laboratory, 10 or 20 hours a week, MR. MILLER.

251. Advanced Quantitative Analysis.—Laboratory work 10 hours a week per major, lectures 1 hour per week. Work may be chosen among the following subjects: Water Analysis, Food Analysis, Iron and Steel Analysis, Gas Analysis, Mineral Analysis. Prerequisite: Chemistry 242 and 261. ½Mj. or Mj. Summer and Winter, ASSISTANT PROFESSOR NOYES.

252. Electrical Methods of Analysis.—Laboratory work 10 hours a week per major and one lecture a week, Th., 2:30. Electrometric titrations and electrolytic analysis. Prerequisite: Chemistry 242 and 261. ½Mj. or Mj. Spring, DR. YOUNG.

NOTE.—A student may not take more than one and one-half majors of work for credit in courses 251 and 252. One half-major in each course may be taken, if desired, under this regulation.

261. Elementary Physical Chemistry.—An introductory survey course in elementary physical chemistry. Lectures, 3 hours; laboratory work, 6 hours. Prerequisite: Chemistry 240 (except for advanced students in Physics); Physics 111, 112, 113; Mathematics 102. Mj. Summer, First Term, DR. YOUNG; Second Term, PROFESSOR HARKINS; Autumn, DR. YOUNG; Spring, PROFESSOR SCHLESINGER.

291. Introduction to Colloid Chemistry.—An elementary treatment of the main features of colloid chemistry. Lectures, 2 hours a week; laboratory work, 7 hours a week. Prerequisite: Physics 112, Chemistry 241 and 261. Mj. ASSISTANT PROFESSOR TERRY-MCCOY. [Not given in 1926–27.]

NOTE.—The lectures may be taken as one-half major without laboratory work by graduate students who have had two majors of physical chemistry.

301, 302, 303. Advanced Inorganic Chemistry.—A series of half-major lecture courses comprising a systematic course in advanced Inorganic Chemistry from the point of view of recent results and future problems. The groups of the periodic system will be studied critically, and such topics as temperature measurement, thermal analysis, transition points, alloys, co-ordination theory will receive detailed treatment. Prerequisite: Elementary Organic Chemistry and Physical Chemistry 261. ½Mj. 301, Summer, PROFESSOR SCHLESINGER; 302, Winter, PROFESSOR SCHLESINGER.

305. Inorganic Preparations.—Laboratory work, 10 or 20 hours a week; classroom work, 1 hour a week. Prerequisite: Chemistry 242 and 261. Mj., M., or DM. Summer, Autumn, and Winter, PROFESSOR SCHLESINGER.

306. Inorganic Preparations (continuation of course 305).—Prerequisite: Chemistry 305 and a reading knowledge of German. Mj., M., or DM. Summer, Autumn, and Winter, PROFESSOR SCHLESINGER.

321. Organic Chemistry.—Lectures, 3 hours a week; laboratory, 6 hours a week. Prerequisite: Chemistry 240, and for undergraduate students, Elementary Organic Chemistry (Chemistry 120 or an equivalent). Mj. Autumn, PROFESSOR STIEGLITZ.

NOTE.—Undergraduates must have 18 majors of college credit before they are eligible for admission to courses 321 or 322. Students who have had adequate laboratory work in Organic Chemistry are admitted to the lectures of courses 321, 322, and 323, each one-half major, without payment of a laboratory fee.

322. Organic Chemistry (continuation of course 321).—Lectures, 3 hours a week; laboratory, 6 hours a week. Mj. Winter, PROFESSOR STIEGLITZ.

NOTE.—The laboratory work is required of all undergraduate students who have not had, or are not registered for, course 325.

323. Organic Chemistry (continuation of course 322).—The aromatic series. Lectures, 3 hours a week; laboratory work, 6 hours a week. Prerequisite: Chemistry 322. Mj. Spring, 1926, ASSISTANT PROFESSOR RISING; Spring, 1927, PROFESSOR STIEGLITZ.

NOTE.—The laboratory work is required of all undergraduate students who have not had course 121, or course 326.

325. Organic Preparations.—Laboratory work, 10 or 20 hours a week. Prerequisite: Chemistry 141, 242, 261, and Organic Chemistry. Mj. or DM. Summer and Spring, ASSISTANT PROFESSOR GLATTFELD; Mj. Autumn and Winter, ASSISTANT PROFESSOR NICOLET.

326. Organic Preparations (continuation of course 325).—Prerequisite: Chemistry 325 or its equivalent and a reading knowledge of German or French. Mj. or DM. Summer and Spring, ASSISTANT PROFESSOR GLATTFELD; Mj. Autumn and Winter, ASSISTANT PROFESSOR NICOLET.

NOTE.—Students who have taken the laboratory work of courses 322 and 323, will omit course 325 and go on with course 326.

328. Preparative Organic Chemistry.—Lectures, 2 hours per week. Prerequisite: Qualitative and Quantitative Analysis and Elementary Organic Chemistry. ½Mj. ASSISTANT PROFESSOR NICOLET. [Not given in 1926–27.]

330. Special Topics of Organic Chemistry.—Prerequisite: Organic Chemistry, aliphatic and aromatic. M. PROFESSOR STIEGLITZ. [Not given in 1926–27.]

331. Selected Topics of Advanced Organic Chemistry.—Characteristics of the aromatic series; quinones; diazo-compounds, pyridines; the structure and synthesis of typical alkaloids. Prerequisite: Chemistry 120 (or 1 major of organic chemistry), and Quantitative Analysis. M. Summer, Second Term, 4 lectures per week, ASSISTANT PROFESSOR RISING.

332. Special Topics of Organic Chemistry.—Prerequisite: Chemistry 323 or its equivalent. ½Mj. ASSISTANT PROFESSOR NICOLET. [Not given in 1926–27.]

333. Carbohydrates.—Prerequisite: 2 majors of organic chemistry. 2 lectures a week. ½Mj. Autumn, ASSISTANT PROFESSOR GLATTFELD.

334. Organic Nitrogen Derivatives.—Amino acids: polypeptids; uric-acid series; aliphatic diazo-compounds; pyridine group; dyes. Prerequisite: Chemistry 322. ½Mj. ASSISTANT PROFESSOR RISING. [Not given in 1926–27.]

335. Physical Chemistry Applied to Organic Problems.—Lectures, 2 hours a week. ½Mj. PROFESSOR STIEGLITZ. [Not given in 1926–27.]

336. Stereochemistry.—Stereochemistry of carbon compounds and nitrogen compounds, including methods of determination of configuration; stereochemical interference. Prerequisite: 2 majors of Organic Chemistry. M. Summer, First Term, DR. SENIOR.

337. Catalysis.—Preparation and use of newer (solid) catalysts and promoters for organic reactions. Prerequisite: Chemistry 242, 323, or 320, 325. Two lectures a week. ½Mj. Winter, ASSISTANT PROFESSOR TERRY-MCCOY.

338. Electrolytic Processes of Organic Chemistry.—Lectures, 2 hours a week; laboratory, 7 hours a week. Prerequisite: Chemistry 242, 323, or 320, 325. Mj. ASSISTANT PROFESSOR TERRY-MCCOY. [Not given in 1926–27.]

NOTE.—The lectures in 337 or 338 may be taken as a half-major without laboratory work and without payment of a laboratory fee.

339. The Chemistry of Synthetic Drugs and Related Principles.—Structure and synthesis of typical alkaloids, synthetic drugs, and active principles of internal secretion. Prerequisite: 2 majors of Organic Chemistry or Chemistry 120 and 1 major of Physiological Chemistry. ½Mj. Spring, ASSISTANT PROFESSOR RISING.

340. Topics in Organic Chemistry.—½Mj. Spring, 1926, DR. GOTTLIEB–BILLROTH.

341. Organic Dyes.—A study of the important classes of dyestuffs, their properties and the general methods for their preparation with emphasis on the theoretical relations involved. Prerequisite: Chemistry 121 or 323. ½Mj. Summer, 1927, DR. HELLERMAN.

350. Qualitative Organic Analysis.—Prerequisite: Chemistry 323 (or 320), 325, and 326. Lectures, 2 hours per week and 8 hours of laboratory. Mj. Winter, ASSISTANT PROFESSOR NICOLET.

351. Organic Elementary Analysis.—Determinations of carbon, hydrogen, and nitrogen by combustion. Prerequisite: Chemistry 242. Laboratory work, 60 hours. Required of all candidates for the Ph.D. and S.M. (laboratory thesis) in Organic Chemistry. M. Summer, First Term, repeated M. Second Term, DR. HELLERMAN; ½Mj. Autumn and Winter, ASSISTANT PROFESSOR NICOLET; Spring, ASSISTANT PROFESSOR GLATTFELD.

361. Physical Chemistry.—Lectures, 3 hours; laboratory work, 6 hours. Prerequisite: Elementary Physical Chemistry 261 and the Elements of Calculus. Mj. Autumn, PROFESSOR HARKINS.

362. Physical Chemistry: Electrochemistry (continuation of course 361).—Hours as in 361. Prerequisite: Chemistry 361 or its equivalent and Physics 111 and 112. Lectures, 3 hours; laboratory work, 6 hours. Mj. Summer, First Term, PROFESSOR COHÉN AND DR. YOUNG; Second Term, PROFESSOR HARKINS; Winter, PROFESSOR HARKINS.

363. Physical Chemistry: Applications of Thermodynamics and Kinetic Theory (continuation of course 362).—Lectures, 4 hours a week. Prerequisite: Chemistry 362 or its equivalent in Physics. Mj. Spring, PROFESSOR HARKINS.

364. Thermodynamics II.—Application of thermodynamics and kinetic theory to problems in pure and applied chemistry; third principle of thermodynamics and calculation of entropy and free energy values. Lectures: 4 hours per week. Prerequisite: Chemistry 363 or its equivalent. Mj. PROFESSOR HARKINS AND DR. YOUNG. [Not given in 1926–27.]

370. Photochemistry.—The relation of quantum theory and photoelectricity to chemical action. Prerequisite: Chemistry 261 and college physics. Two lectures weekly. ½Mj. Winter, ASSISTANT PROFESSOR NOYES.

381. The Structure of the Atom and Valence.—A non-mathematical course on the nucleus of the atom as related to atomic evolution, and on the arrangement of the planetary electrons as related to valence. Prerequisite: Chemistry 261 or its equivalent in Physics. ½Mj. Autumn, 2 lectures weekly, PROFESSOR HARKINS.

382. Crystal Structure and Valence as Related to Atomic Structure.—Lectures. ½Mj. PROFESSOR HARKINS. [Not given in 1926–27.]

383. Atomic Structure and Structure of Molecules.—Prerequisite: Chemistry 363 or Mathematics 393 (Thermodynamics). ½Mj. ASSISTANT PROFESSOR NOYES AND DR. YOUNG. [Not given in 1926–27.]

386. Radioactivity.—The evolution and devolution of the elements. Lectures. ½Mj. PROFESSOR HARKINS. [Not given in 1926–27.]

387. Subatomic Phenomena and Radioactivity.—Lectures from the point of view of atomic structure and radio chemistry. Prerequisite: Chemistry 261. ½Mj. ASSISTANT PROFESSOR NOYES. [Not given in 1926–27.]

388. Laboratory Course in Radioactivity.—To follow course 387. Limited to 6. ½Mj. ASSISTANT PROFESSOR NOYES. [Not given in 1926–27.]

391. The Constitution of the Liquids and Solids: Surface Tension and Colloids.—2 lectures weekly. ½Mj. PROFESSOR HARKINS. [Not given in 1926–27.]

394. Special Topics of Physical Chemistry.—Prerequisite: Elementary Physical Chemistry. M. Summer, First Term, PROFESSOR COHÉN.

401–60. Research Work and Introduction to Research.—These courses will include from 30 to 40 hours a week of laboratory work, under the special direction of some one of the instructors in the Department. It is expected that research work for a Doctor's dissertation will require 4–6 quarters (4–6 DMjs.). Before being admitted to research a candidate must satisfy the instructors of the Department that his previous training has been sufficient.

401. Master's Dissertation in Colloid and Organic Chemistry.—Mj. Autumn and Winter, ASSISTANT PROFESSOR TERRY-MCCOY.

402. Master's Dissertation in Organic Chemistry (Library Thesis).—Mj. Summer, Autumn, and Spring, ASSISTANT PROFESSOR GLATTFELD.

403. Master's Dissertation in Organic Chemistry (Library Thesis).—Mj. Autumn, Winter, and Spring, ASSISTANT PROFESSOR NICOLET.

404. Master's Dissertation in Qualitative Analysis or in Organic Chemistry.—Mj. Summer, Winter, and Spring, ASSISTANT PROFESSOR RISING.

405. Master's Dissertation in Quantitative Analysis.—Mj. Summer, Autumn, and Winter, ASSISTANT PROFESSOR NOYES.

406. Master's Dissertation in Qualitative and Quantitative Analysis.—Mj. Summer, Autumn, and Spring, DR. YOUNG.

407. Master's Dissertation in Organic Chemistry.—Mj. Summer, Autumn, Winter, and Spring, DR. HELLERMAN.

420. Research in Organic and Physico-Organic Chemistry (for Ph.D. and S.M.).—Mj. or DMj. Autumn, Winter, and Spring, PROFESSOR STIEGLITZ.

421. Research in Physical Chemistry and Radioactivity (for Ph.D. and S.M.).—Mj., DM., or DMj. Summer, First Term, Autumn, Winter, and Spring, PROFESSOR HARKINS.

422. Research in Inorganic and Physical Chemistry (for Ph.D. and S.M.).—Mj. or DMj. Summer, Autumn, Winter, and Spring, PROFESSOR SCHLESINGER.

423. Research in Physico-Organic Chemistry (for Ph.D. and S.M.).—Mj. or DMj. Autumn and Winter, ASSISTANT PROFESSOR TERRY-MCCOY.

424. Research in Organic Chemistry (for Ph.D. and S.M.).—Mj. Summer, Autumn, and Spring, ASSISTANT PROFESSOR GLATTFELD.

425. Research in Organic Chemistry (for Ph.D. and S.M.).—Mj. or DMj. Autumn, Winter, and Spring, ASSISTANT PROFESSOR NICOLET.

426. Research in Inorganic Chemistry (for Ph.D. and S.M.).—Mj. or DMj. Summer, Winter, and Spring, ASSISTANT PROFESSOR RISING.

427. Research in Photochemistry and Sub-Atomic Phenomena (for Ph.D. and S.M.).—Mj. or DMj. Summer, Autumn, and Winter, ASSISTANT PROFESSOR NOYES.

428. Research in Physical Chemistry (for Ph.D. and S.M.).—Mj. or DMj. Summer, Autumn, and Spring, DR. YOUNG.

450. Independent Research.—Mj. Summer, Autumn, Winter, and Spring.

460. Research in the Chemistry of Food.—Mj. Summer, Autumn, and Spring, PROFESSOR BLUNT (Department of Home Economics).

475. Club Meetings.—Meetings of the Kent Chemical Society will be held twice a month. They may be attended by anyone interested. The subjects for the meetings will be announced at least one week in advance. Summer, Autumn, Winter, and Spring.

Attention is called to the following Chemistry courses in other Departments. Descriptions of these courses may be found in the *Announcements* of the respective Departments.

CHEMISTRY COURSES IN THE DEPARTMENT OF PHYSIOLOGICAL CHEMISTRY

See the *Announcements* of the Department of Physiological Chemistry and Pharmacology.

CHEMISTRY COURSES IN THE DEPARTMENT OF GEOLOGY

352. Genesis of Ore Deposits.—Prerequisite: Geology 212, 216, and 340, Chemistry 140. Laboratory fee, $6.00. Mj. Autumn, 8:00, PROFESSOR BASTIN.

353. Economic Geology of Metalliferous Deposits.—Prerequisite: Geology 352. Mj. Winter, 1928, PROFESSOR BASTIN.

354. Non-Metallic Mineral Deposits (except petroleum, natural gas, and asphalt).—Prerequisite: Geology 212 and 216, Chemistry 103. Mj. Winter, 9:00, PROFESSOR BASTIN.

CHEMISTRY COURSES IN THE DEPARTMENT OF HOME ECONOMICS AND HOUSEHOLD ADMINISTRATION

216. Chemistry of Foods.—Prerequisite: Organic Chemistry. Laboratory fee, $6.00. Mj. Summer (or M. either Term), lectures, W., F., 10:00, laboratory, M.,Tu., Th., 10:00–12:00, First Term, PROFESSOR BLUNT AND MISS SMITH; Second Term, ASSISTANT PROFESSOR HALLIDAY; Mj. Autumn, lectures, M., 9:00, W., 8:00, laboratory Tu., Th., F., 8:00-10:00, PROFESSOR BLUNT AND MISS SMITH; Spring, lectures, M., W., 11:00, laboratory, Tu., Th., F., 10:00–12:00, ASSISTANT PROFESSOR HALLIDAY.

312. Nutrition.—Prerequisite: Home Economics 216 and Physiology. Laboratory fee, $6.00. M. Summer, First Term, lectures, Tu., Th., 8:00, laboratory, M., W., F., 8:00–10:00, DR. DAUM; Mj. Autumn, lectures, M., Th., 2:30, laboratory, Tu., W., F., 1:30–3:30; Spring, lectures, Tu., Th., 1:30, laboratory, M., W., F., 1:30–3:30, PROFESSOR BLUNT AND MISS SMITH.

314. Dietaries.—Prerequisite: Home Economics 312A. Laboratory fee, $6.00. Mj. Autumn, lectures, W., F., 10:00, laboratory, Tu., Th., 10:00–12:00, ASSISTANT PROFESSOR ROBERTS.

321. Chemistry of Food.—Prerequisite: Home Economics 216. Laboratory fee, $6.00. M. Summer, First Term, lectures, M., Th., 12:30, laboratory, Tu., W., F., 12:30–2:30; Mj. Winter, lectures, M., W., 12:30, laboratory, Tu., Th., F., 12:30–2:30, ASSISTANT PROFESSOR HALLIDAY.

356. Textile Testing.—Prerequisite: General Chemistry and 2 majors in Home Economics, including Home Economics 254, or 4 majors of Chemistry. Laboratory fee, $6.00. M. Summer, First Term, 1:30–3:30; Mj. Spring, 1:30–3:30, MISS STEVENSON.

412. Readings in Nutrition.—Prerequisite: Home Economics 312A and 314A. Mj. Summer (or M. either Term), Tu., Th., 3:30–5:30; Mj. Spring, Tu., Th., 2:30–4:30, PROFESSOR BLUNT AND MISS SMITH.

THE DEPARTMENT OF BOTANY

OFFICERS OF INSTRUCTION

HENRY CHANDLER COWLES, PH.D., SC.D., Professor of Plant Ecology and Chairman of the Department of Botany.

JOHN MERLE COULTER, PH.D., LL.D., Professor Emeritus of Botany.

CHARLES JOSEPH CHAMBERLAIN, PH.D., SC.D., Professor of Plant Morphology and Cytology.

CHARLES ALBERT SHULL, PH.D., Professor of Plant Physiology.

WILLIAM JESSE GOAD LAND, PH.D., Associate Professor of Plant Morphology.

ADOLF CARL NOÉ, PH.D., SC.D., Associate Professor of Paleobotany.

GEORGE KONRAD KARL LINK, PH.D., Associate Professor of Plant Pathology.

GEORGE DAMON FULLER, PH.D., Assistant Professor of Plant Ecology.

MERLE CROWE COULTER, PH.D., Assistant Professor of Plant Genetics.

SCOTT VERNE EATON, PH.D., Assistant Professor of Plant Physiology.

THOMAS HARPER GOODSPEED, PH.D., Associate Professor of Botany, University of California (Summer, 1926).

HERMAN KURZ, PH.D., Associate Professor of Botany, Florida State College for Women (Summer, 1926).

FELLOWS, 1926–27

BERTRAM DONALD BARCLAY, S.B.

RAYMOND JOHN BECRAFT, S.M.

HARRIET GEORGE, A.M.

KATHLEEN LOUISE HULL, A.M.

MILDRED E. MANUEL, S.M.

INTRODUCTORY

The purpose of the Department is to train students in Morphology, Cytology, Ecology, Physiology, Pathology, Genetics, and Paleobotany, and to add other fields as they become developed. This training includes such knowledge of plants as belongs to general culture, and also for the following positions: teachers in secondary schools, colleges, and universities; investigators in government service; and experts in scientific agriculture.

The *Botanical Gazette*, a journal now in its eightieth volume, is a publication of the Department, and while in no sense an organ of the Department, it is the natural channel for the publication of much of its work. The Department also issues a series of *Contributions from the Hull Botanical Laboratory*, 342 numbers of which have been published.

The Botany Club consists of the instructors and advanced students of the Department, who meet each week to review important current literature, to present the results of their own research, and to hear visiting botanists. The club is made an important means of supplementary training for the special student of Botany.

In courses demanding the use of apparatus a laboratory fee of $6.00 is charged. This fee includes the use of reagents and plant material. In addition, a $10.00 breakage ticket is usually needed to cover the rental fee for the use of a microscope, breakage, and any additional supplies. Upon completion of the course, any unused portion of the breakage ticket is refunded.

The courses fall naturally into groups under the following classification:

I. *General and introductory.*—Courses 101, 102, and 103 are intended to give a general preparation for biological work in the field of Botany. Each course is complete in itself, but course 101 is a necessary introduction to either 102 or 103, and is the one to be selected by the general student who can give only a single quarter to the subject. Course 105 is a lecture and reading-course in evolution and heredity, and is intended to furnish general information to the student concerning the theories of organic evolution and concerning the current experimental work in heredity. Courses 106 and 107 are intended to correct the tendency of students of botany to know only laboratory material and to be ignorant of the plant population. Courses 101, 102, 103, 105, 106, and 107 are especially recommended to teachers in the public schools.

Courses 207, 208, and 209 constitute a series intended to give a thorough account of the principal groups of plants, their morphology, and a somewhat detailed outline of their classification. These courses may be taken in any sequence, although the subject develops most naturally if they are taken in the order of their numbering. They are required of all students who intend to do work for the doctorate, and are adapted to all who desire a thorough elementary knowledge of plants. Unless all three are taken, course 101, or its equivalent, is a prerequisite for any of them.

Course 204 is required of all students who purpose entering any of the courses in Special Morphology.

Courses 220, 221, and 222 constitute a general survey of the physiology of plants, and are designed to give the student detailed knowledge of the facts and principles of plant life. The courses should be taken in a regular sequence, although 221 and 222 may be taken without course 220; but 222 cannot be taken preceding 221. These courses lay the foundations for graduate work in plant physiology, and if possible should be taken as undergraduate courses. Course 224 is a lecture course, dealing with plant production, and is of interest to students of economics.

Course 230 is a laboratory course, dealing with plant tissues from the ecological viewpoint; course 235, also a laboratory course, considers the ecological aspects of trees, and may serve as an introduction to work in forestry. Courses 234 and 336 are field courses in ecology, the former being local, while the latter is given elsewhere and consequently demands for the time the student's entire attention. Course 237 is a lecture course involving the application of ecology to man.

Courses 240, 245, 246, and 248 are descriptive courses and are designed to give an insight into the principles of plant pathology and a general survey of the subject-matter. These courses lay the foundation for graduate and research work and should be taken as undergraduate or early graduate courses. Course 244 deals with methods and presents the experimental phases of plant pathology. It is a prerequisite for independent research work. Course 204 is a highly desirable antecedent.

Course 370 is designed to give graduate students facility in reading botanical literature.

II. *Special Morphology.*—The courses enumerated under this head (310–315) expand the work of courses 207, 208, and 209, and consider in detail the different groups of plants there studied. They are intended to furnish the training necessary for independent research in morphology. Courses 310, 312, and 313 make up a year's work, offered in alternate years with courses 311, 314, and 315. Course 419 is a research course and demands familiarity with French and German.

III. *Physiology.*—Courses 325–327 are designed especially for graduate students

majoring in physiology, and are prerequisite to research. Course 323 is especially valuable in studying localization of plant processes. The laboratory work in physiology sometimes requires observations at irregular and unusual hours which students electing the courses should be willing to make. Course 429 is a research course open only to those with adequate preparation. Students should be able to read French and German readily in connection with graduate courses, and must be familiar with the fundamental principles of Physics and Chemistry, inorganic, organic, and physiological. Physics 101, 102, 111 and Chemistry 101, 102, 103, 120 are highly desirable antecedents for any of the courses, and Chemistry 120 is prerequisite to courses 323 and 326.

IV. *Ecology.*—Course 330 is a laboratory course, involving the experimental phases of ecology; course 331 deals with the application of quantitative methods to the solution of field problems in ecology. Courses 332 and 333 are lecture courses, taking up world problems of plant distribution. Course 439 is a research course and demands familiarity with German.

V. *Pathology.*—Courses 340 and 342 are graduate lecture courses. They are designed for students majoring in plant pathology and for graduate students with adequate preparation in botany. These courses together with course 244 are prerequisites for research work. Course 449 is a research course open only to students with adequate preparation in the principal phases of botany. The problem chosen by the candidate for a higher degree will determine whether additional work is to be done in anatomy, physiology, genetics, mycology, or in ecology, and in chemistry, physics, or in other fields of biological science. So far as possible, the fundamental subjects and modern-language requirements should be taken before graduate work is undertaken.

VI. *Genetics.*—Course 105 provides an elementary treatment of evolution, heredity, and eugenics. Course 250 is a lecture and discussion course which considers the principles of heredity in detail, with particular reference to plant material. Individual arrangements may be made for more advanced study and investigation (459).

VII. *Paleobotany.*—Courses 260, 361, and 362 are lecture, laboratory, and field courses, intended to develop the fundamentals of plant history.

THE BACHELOR'S DEGREE

Recommended groups for the Bachelor's degree.—Course 101 or its equivalent is a prerequisite for all sequences.

PRINCIPAL SEQUENCE

Botany 102, 103, 105, 106 (or 107), 207 (or 208 or 209), 234, and three majors from 204, 207, 208, 209, 220, 224, 230, 237, 240, 250.

SECONDARY SEQUENCE

Botany 102, 103, and four majors selected to relate to the principal sequence.

THE MASTER'S DEGREE

Candidates for the Master's degree in Botany are expected, on the basis of a principal sequence of undergraduate Botany, to offer for examination eight majors of Botany, three of which must be selected from 207 (or 208 or 209), 220, 234, 240, and 250, and to present a satisfactory dissertation. At least three of the elective majors should be in the division of Botany in which the dissertation falls.

THE DOCTOR'S DEGREE

If Botany is the minor subject offered by the candidate for the Doctor's degree, the work required is substantially the same as that for the Master's degree, except that no dissertation is required.

If Botany is the major subject, the candidate must (1) offer for examination courses 207, 208, 209, 220, 221, 222, 230, 234, 240, and 250, and in addition a considerable body of special courses in each case closely related to the division of Botany in which the dissertation lies; and (2) present a dissertation, in finished form, embodying valuable results of botanical inquiry.

The normal time requirement for the degree is three years of graduate work. Candidates for the degree are expected to take most of the required courses before beginning their research. The time required for the dissertation work generally varies from three to six quarters.

COURSES OF INSTRUCTION

For explanation of the numbering system, see page 18.

101. Elementary Botany.—A general introduction to Botany. Prerequisite to all other courses (except 105) offered by the Department. Laboratory fee, $6.00. DM. Summer, First Term; Mj. Autumn, Winter, and Spring, ASSISTANT PROFESSOR COULTER.

102. Elementary Plant Physiology.—A course dealing with the fundamental physiology of cell life, the nature of protoplasmic membranes, permeability, osmotic phenomena, cellular metabolism, including synthetic metabolism, storage, digestion, and respiration, with a summary view of the general physiological activities of plants, particularly the seed plants. Prerequisite: Botany 101, or equivalent; Elementary Physics and Chemistry desirable. Laboratory fee, $6.00. Mj. Summer and Spring, PROFESSOR SHULL AND ASSISTANT; Autumn, ASSISTANT PROFESSOR EATON AND ASSISTANT.

103. Elementary Ecology.—Plants in relation to their environment. Field work in the greenhouses and parks near the University, with occasional laboratory exercises and field trips to the country. Prerequisite: Botany 101, or equivalent. Laboratory fee, $3.00. Mj. Autumn, PROFESSOR COWLES AND ASSISTANT PROFESSOR FULLER; Spring, PROFESSOR COWLES.

105. Evolution, Heredity, and Eugenics.—A consideration of the facts upon which the evolution concept is founded; the theories which have been advanced to explain how evolution takes place; the laws of inheritance and related phenomena in plants and animals, with practical applications; inheritance in man and its possibilities. No prerequisite. Lectures, 4 hours a week. Mj. Winter, ASSISTANT PROFESSOR COULTER.

106. The Spring Flora.—The identification of the spring seed plants and ferns of the Chicago region, to acquire familiarity with the distinguishing features of the great groups, and with the use of manuals. Prerequisite: Botany 101, or equivalent. Laboratory fee, $3.00. Mj. Spring, ASSISTANT PROFESSOR FULLER.

107. The Summer Flora.—The identification of the summer seed plants and ferns of the Chicago region, to acquire familiarity with the distinguishing features of the great groups, and with the use of manuals. Prerequisite: Botany 101, or equivalent. Laboratory fee, $3.00. M. or DM. Summer, Second Term, ASSOCIATE PROFESSOR LAND AND ASSOCIATE PROFESSOR KURZ.

204. Methods in Plant Histology.—Principles and methods of killing, fixing, imbedding, sectioning, staining, mounting, drawing, reconstructing, and use of microscope. Prerequisite: Botany 101, or equivalent. Laboratory fee, $6.00. DM. Summer, First Term; Mj. Spring, ASSOCIATE PROFESSOR LAND.

207. General Morphology of Thallophytes.—The thorough study of a series of Algae and Fungi forms the basis of lectures upon the morphology and classification of

these groups. Prerequisite: Botany 101, or equivalent. Laboratory fee, $6.00. Mj. Summer, 1928, Associate Professor Land; Autumn, Professor Chamberlain and Assistant.

208. General Morphology of Bryophytes and Pteridophytes.—A continuation of course 207. Prerequisite: Botany 101, or equivalent. Laboratory fee, $6.00. Mj. Winter; Summer, 1926, Associate Professor Land and Associate Professor Kurz.

209. General Morphology of Spermatophytes.—A continuation of courses 207 and 208. Prerequisite: Botany 101, or equivalent. Laboratory fee, $6.00. Mj. Summer, 1927; Spring, Associate Professor Land and Assistant.

220. General Plant Physiology I.—A survey of the fundamental physiological relationships of plants and soils. Prerequisite: Botany 102. Desirable antecedents: Physics 101, 102, 111; Botany 103, 207, 208, 209. Laboratory fee, $6.00. Mj. Summer, 1926; Autumn, Assistant Professor Eaton and Assistant.

221. General Plant Physiology II.—A continuation of course 220, devoted to a general survey of constructive metabolism and related processes. Prerequisite: Botany 102. Desirable antecedents: Chemistry 120; Botany 220. Laboratory fee, $6.00. Mj. Winter; Summer, 1927, Assistant Professor Eaton and Assistant.

222. General Plant Physiology III.—A continuation of courses 220 and 221, presenting a general survey of destructive metabolism and related processes. Prerequisite: Botany 102 and 221, or their equivalents. Laboratory fee, $6.00. Mj. Spring; Summer, 1928, Assistant Professor Eaton and Assistant.

224. Plant Production in the United States.—This is a lecture course and deals with the main problems of plant production in the United States. Since the values of the products as well as the efficiency of the methods of production are considered, the course is of special significance to students of economics. Prerequisite: Botany 101, or equivalent. Desirable antecedents: Chemistry 101 and Physics 101. Mj. Assistant Professor Eaton. [Not given in 1926–27.]

230. Ecological Anatomy.—Plant tissues from the point of view of origin and rôle. Prerequisite: Botany 101 and 103. Laboratory fee, $6.00. Mj. Autumn; Summer, 1927, Assistant Professor Fuller.

234. Physiographic Ecology.—Origin and development of the various plant associations, especially such as are found in the United States and Canada. Lectures and field work. Prerequisite: 5 majors of Botany, Geology, or Geography. Mj., 1½Mj., or DMj. Spring, Professor Cowles and Assistant Professor Fuller; Summer, 1926, Professor Cowles.

235. Forest Ecology.—The activities of trees; the structure and rôle of their various organs. Trees in relation to climate, soil, and organic environment. Forest succession and its causes. The great forest formations of the United States and Canada. Prerequisite: Botany 103. Mj. Winter, 1927; Summer, 1928, Assistant Professor Fuller.

237. Applied Ecology.—The application of Ecology to agriculture, horticulture, floriculture, and forestry. The ecology, origin, and distribution of cultivated plants, useful wild plants, weeds, and plant diseases. Occasional field trips. Prerequisite: Botany 103 or equivalent. Mj. Autumn, 1926; Summer, 1927, Professor Cowles.

240. General Plant Pathology.—A survey of the field of plant pathology, dealing with the nature, causes, symptoms, relation to environmental factors, economic importance, and control of the common diseases of plants, with special consideration of the life-histories of the pathogenes. The lectures and laboratory work are designed for students who want to become acquainted with the subject-matter of plant pathology as well as for those who choose this field for their major. Prerequisite: Botany 101 and 102. Laboratory fee, $6.00. Mj. Summer and Autumn, 1926, Associate Professor Link.

244. Methods in Plant Pathology.—Principles and methods of phytopathological technique, including making of media, isolation, and culturing of causal organisms, inoculation of plants, and consideration of factors determining infection and development of diseases. Prerequisite: Botany 240, or equivalent. Laboratory fee, $6.00. Mj. Autumn, 1926, Associate Professor Link.

245. Market Pathology.—The non-parasitic and parasitic diseases which are of economic importance in the marketing and distribution of fruits and vegetables. A survey of the field, with intensive study of representative diseases, stressing the relation of control measures to harvesting, shipping, and storage practices. Prerequisite: Botany 240, or equivalent. Laboratory fee, $6.00. Mj. Summer, 1926; Spring, 1927, Associate Professor Link.

246. Pathology of Garden, Truck, and Orchard Crops.—A survey course dealing with the parasitic and non-parasitic diseases of the more important vegetable, orchard (deciduous and citrus), and small fruit plants. Prerequisite: Botany 240, or equivalent. Laboratory fee, $6.00. Mj. Winter, 1927; Summer, 1927, Associate Professor Link.

248. Pathology of Field, Forest, and Ornamental Plants.—A survey course dealing with the parasitic and non-parasitic diseases of the most important cereal, forage, fiber, timber, shade, and ornamental plants. Prerequisite: Botany 240. Alternates with Botany 246. Mj. Winter, 1928, Associate Professor Link.

250. Plant Genetics.—A consideration of the facts and theories of heredity as applied to plants. Lectures. Prerequisite: Botany 105, or equivalent. Mj. or DMj. Spring and Summer, 1927, Assistant Professor Coulter.

260. General Morphology of Fossil Plants.—The study of a representative series of fossil plants forms the basis of lectures upon the morphology and classification of extinct Pteridophytes and Spermatophytes. Occasional field trips. Prerequisite: Botany 101 or equivalent and Botany 208 and 209. Laboratory fee, $6.00. Mj. Autumn, Associate Professor Noé.

Twenty-seven majors of college credit are prerequisite for all courses from 301 to 399.

310.[1] **Special Morphology of Algae.**—Critical studies of representative Algae, accompanied by lectures upon the morphology and relationships of the group. Prerequisite: Botany 204 and 207. Laboratory fee, $6.00. DMj. or Mj. Summer, 1926, and Autumn, 1927, Professor Chamberlain.

311. Special Morphology of Fungi.—A study of the morphology and relationships of the Fungi. Prerequisite: Botany 204 and 207. Laboratory fee, $6.00. DMj. or Mj. Autumn, 1926, Professor Chamberlain.

312. Special Morphology of Bryophytes.—Critical studies of typical liverworts and mosses, accompanied by lectures upon their morphology and relationships. Prerequisite: Botany 204 and 208. Laboratory fee, $6.00. DMj. or Mj. Summer, 1927, and Winter, 1928, Associate Professor Land.

313. Special Morphology of Pteridophytes.—Similar in method and purpose to course 312. Prerequisite: Botany 204 and 208. Laboratory fee, $6.00. DMj. or Mj. Spring, 1928, and Summer, 1928, Professor Chamberlain.

314. Special Morphology of Gymnosperms.—Critical studies of the gymnosperm types, with a course of lectures on the morphology and genetic relationships of the group. Prerequisite: Botany 204 and 209. Laboratory fee, $6.00. DMj. or Mj. Winter, 1927, and Summer, 1929, Professor Chamberlain.

315. Special Morphology of Angiosperms.—A continuation of course 314, treating monocotyledons and dicotyledons. Laboratory fee, $6.00. DMj. or Mj. Spring, 1927, and Summer, 1930, Professor Chamberlain.

317. Cytology.—The structure and life-history of the plant cell. Special attention given to the bearing of cytology upon theories of heredity and evolution. For research students. Prerequisite: Botany 204. Laboratory fee, $6.00. Mj. Summer, 1926, and Winter, 1927, Professor Chamberlain.

322. Special Physiology of Fungi.—A lecture course dealing with the special physiology of the fungi, spore germination, carbon and nitrogen metabolism, growth, habits of life, and reproduction of the various groups of fungi. ½Mj. Summer, Professor Shull.

323. Plant Microchemistry.—The isolation and identification of organic and inorganic substance found in plant tissues, by micro-technical methods. These methods

[1] Courses 310, 312, 313 are offered in alternate years with courses 311, 314, 315.

are of especial value in the localization of plant substances and in the study of metabolism of plants. Prerequisite: Botany 220, 221, 222, or equivalents, and Chemistry 120. Desirable antecedent: Chemistry 140. Laboratory fee, $6.00. Mj. Summer, 1926, and Autumn, 1927, Assistant Professor Eaton.

325. Plant Physics.—A course dealing with the methods of research and the recent advances in our knowledge of the physical processes of plant life. Prerequisite: Botany 220, 221, and 222, or their equivalents. Desirable antecedents: Physics 252 and 262. Laboratory fee, $6.00. Mj. or DMj. Summer, 1926, and Autumn, 1927, Professor Shull and Assistant Professor Eaton.

326. Plant Chemics.—A continuation of course 325, devoted to the methods of research and recent advances in the study of metabolism. Prerequisite: Botany 220, 221, and 222, and Chemistry 120. Desirable antecedents: Physiological Chemistry 201; Botany 325. Laboratory fee, $6.00. Mj. or DMj. Summer, 1927, and Winter, Professor Shull and Assistant Professor Eaton.

327. Growth and Movement.—A continuation of courses 325 and 326, with special reference to the methods and results of recent research on the problems of growth, development, and movements of plants. Prerequisite: Botany 220, 221, 222, or their equivalents. Desirable antecedents: Botany 325 and 326. Laboratory fee, $6.00. Mj. or DMj. Summer, 1928, and Spring, Professor Shull and Assistant Professor Eaton.

330. Experimental Ecology.—External causes determining the origin and development of plant organs. Prerequisite: Botany 101, 102, 103, 230. Laboratory fee, $6.00. Mj. Winter, 1927, Professor Cowles.

331. Experimental Field Ecology.—The instruments and methods for quantitative field studies of precipitation, evaporation, soil moisture, light intensity, and other ecological factors. Practice in the use of instruments in the field. Prerequisite: Botany 103 and 234. Laboratory fee, $6.00 per Mj. M. Summer, 1927, First Term; Mj. Spring, 1927, Assistant Professor Fuller.

332. Geographic Botany I.—Ecological Plant Geography. This course and course 333 present regional and world-problems in contrast to the local field problems treated in course 333. Prerequisite: Botany 103, or equivalent. Desirable antecedent: Botany 234. M. Summer, 1926, First Term, Professor Cowles; Mj. Winter, 1928, Assistant Professor Fuller.

333. Geographic Botany II.—Floristic Plant Geography. This course presents the floristic regions of the world and their geological development. Prerequisite: Botany 103, or equivalent, and preferably Botany 234, 332. Mj. Autumn, 1927; M. Summer, 1927, Second Term, Professor Cowles.

335. Ecological Surveying.—The work in this course is devoted to a careful survey of forested lands in the vicinity of Chicago. M., Mj., or DMj. Summer, Autumn, Winter, Spring, Professor Cowles.

336. Field Ecology.—The whole time of the student will be required during the time spent in the field. Prerequisite: Botany 234 and preferably 332. M., DM., 3M., or 4M., depending upon the quantity of the work accomplished. Summer, 1926, First Term, Colorado, Assistant Professor Fuller.

340. Non-parasitic and Bacterial Diseases.—A lecture course dealing with recent advances in knowledge and methods of research in the pathological phenomena produced in plants by non-parasitic factors, by protozoans, and by bacteria. Lectures 4 hours a week. Prerequisite: Botany 240, 244, or equivalents. Mj. Winter, 1927, Associate Professor Link.

342. Fungous Diseases.—A continuation of course 340, dealing with the pathological phenomena in plants produced by Eumycetes and Metazoa. Lectures 4 hours a week. Prerequisite: Botany 240, 244, or equivalents. Mj. Spring, 1927, Associate Professor Link.

361. Special Morphology of Fossil Pteridophytes.—A critical study of extinct pteridophytes with a course of lectures upon their morphology and relationship to living forms. Prerequisite: Botany 207, 208, 209, and 260. Laboratory fee, $6.00. Mj. Winter, Associate Professor Noé.

362. Special Morphology of Fossil Spermatophytes.—A critical study of extinct spermatophytes with a course of lectures upon their morphology and relationship to living plants. Prerequisite: Botany 207, 208, 209, and 260. Laboratory fee, $6.00. Mj. Spring, Associate Professor Noé.

370. Readings in Botanical Literature.—Important modern publications and certain older classical publications are read, with special consideration of German and French literature. Prerequisite: four majors in German or French, or their equivalents. Mj. Autumn, Winter, Associate Professor Noé.

381. Cytology of Hybrid Plants.—Lectures daily; laboratory as arranged. DM. or M. Summer, 1926, First Term, Associate Professor Goodspeed.

419. Research in Morphology.—Only those students will be admitted to this work whose training in technique and special morphology enables them to be independent. Laboratory fee, $6.00. Mj. or DMj. Professor Chamberlain and Associate Professor Land.

429. Research in Physiology.—Requires special training in physiology and the fundamentals of physics and chemistry. Registration only after consultation. Laboratory fee, $6.00. Mj. or DMj. Professor Shull and Assistant Professor Eaton.

439. Research in Ecology.—This course requires special training in Ecology and in related lines of study, especially geology and plant physiology. Laboratory fee, $6.00, in case use is made of laboratory supplies. Mj. or DMj. Professor Cowles and Assistant Professor Fuller.

449. Research in Plant Pathology.—Open to students whose training in plant pathology enables them to be independent. Registration only after consultation. Laboratory fee, $6.00. Mj. or DMj. Associate Professor Link.

459. Research in Plant Genetics.—Open to students whose training enables them to be independent. Mj. or DMj. Assistant Professor Coulter.

469. Research in Paleobotany.—Open to students whose training in morphology and paleobotany enables them to be independent. Laboratory fee, $6.00. Mj. or DMj. Associate Professor Noé.

488. Seminar in Botany.—In this course critical attention is paid to recent literature in all phases of botany; also students will present for discussion their own research as it approaches completion. It is expected that all research students will register for this course. ½Mj. Weekly, Autumn, Winter, Spring, Members of the Department.

Attention is called to Geology 289, a field course in Paleobotany (August 2–28); to Geology 280, History of Plant Life; Geology 380, Paleozoic Floras; and to Geology 381, Mesozoic and Cenozoic Floras.

Students interested in the teaching of Botany should see Natural Science 385, College of Education.

THE DEPARTMENT OF ZOÖLOGY

OFFICERS OF INSTRUCTION

Frank Rattray Lillie, Ph.D., Sc.D., Professor of Embryology and Chairman of the Department of Zoölogy.
Charles Manning Child, Ph.D., Professor of Zoölogy.
Horatio Hackett Newman, Ph.D., Professor of Zoölogy.
Warder Clyde Allee, Ph.D., Associate Professor of Zoölogy.
Sewall Wright, Sc.D., Associate Professor of Zoölogy.
Carl Richard Moore, Ph.D., Associate Professor of Zoölogy.
Benjamin Harrison Willier, Ph.D., Assistant Professor of Zoölogy.
Libbie Henrietta Hyman, Ph.D., Research Assistant in Zoölogy.
Mary Juhn, Ph.D., Research Assistant in Zoölogy.
Lincoln V. Domm, A.B., Research Assistant in Zoölogy.
William E. Castle, A.B., Assistant in Zoölogy.
Malcolm D. Brode, A.B., Assistant in Zoölogy.
Charles Durward Van Cleave, A.B., Assistant in Zoölogy.
William Caldwell Young, A.B., Assistant in Zoölogy.

Alfred Edwards Emerson, Ph.D., Associate Professor of Zoölogy, University of Pittsburgh (Summer, 1926).
Theodore Sessinghaus Eliot, Ph.D., Instructor in Anatomy, Western Reserve University (Summer, 1926).

J Harlen Bretz, Ph.D., Associate Professor of Geology (Autumn and Winter Quarters).
Merle Crowe Coulter, Ph.D., Assistant Professor of Plant Genetics (Autumn and Winter Quarters).

FELLOWS, 1926–27

Fred Alexander Davidson, S.M. Orlando Park, S.B.
Walburga Anna Petersen, S.M.

INTRODUCTORY

The courses in Zoölogy aim to meet the needs of those students who desire to obtain some knowledge of Zoölogy as part of their general education, those who need work in Zoölogy to satisfy the requirements of other departments, and those who propose to specialize in Zoölogy. The leading purpose of the courses is to present the subject-matter of the science, its guiding ideas, its principal subdivisions, its scope, methods, and history, and its relations to other sciences.

UNDERGRADUATE WORK IN ZOÖLOGY

It is advisable that students who propose to *specialize* in Zoölogy should obtain a broad scientific foundation, including work in the cognate sciences, and a reading knowledge of French and German. More specifically, students specializing in Zoölogy should take 4 or 5 majors in Chemistry, 2 or 3 in Physics, and 1 or 2 in Geology; they should

also obtain knowledge of the general principles of microscopical Anatomy, Paleontology, Botany, and Physiology. These courses may be taken concurrently with the work in Zoölogy. Consultation with reference to the sequence of courses taken in the Department is required. (See the *Undergraduate Course Book.*)

COURSES AVAILABLE FOR UNDERGRADUATE SEQUENCES

For students who have had less than a unit of Zoölogy in high school, course 103 is prerequisite for all courses except 105 and 107. Students presenting credits for one unit of Zoölogy in high school may begin with course 201, but will be required to supplement their sequence by taking courses 105 or 107. Courses 201, 202, and 205 may be taken in any order.

SECONDARY SEQUENCES

105 or 107, 201, 202, 205, 218, 219.

PRINCIPAL SEQUENCES

a) General: Secondary sequence, with the addition of 3 majors selected from courses 230, 231, 240, 301, 305. This sequence is intended primarily for teachers in the secondary schools.

b) Genetics and Experimental Zoölogy: Secondary sequence, with 3 majors from courses 305, 310, 311, 320, 321.

c) Ecology: Secondary sequence, with 3 majors from courses 230, 231, 240, and 305.

COMBINATION NINE-MAJOR SEQUENCES

a) Zoölogy-Botany: Zoölogy 105, 107, 202, 205, 218, 219, 240, and Botany 102 or 103, 207, 208, and 209.

b) Comparative Anatomy: Zoölogy 201, 202, 205, 218, 219, 301; Anatomy 210, 201, 202, 203.

GRADUATE WORK IN ZOÖLOGY

Students proposing to undertake graduate work in Zoölogy should have credit for an undergraduate principal sequence in Zoölogy or its equivalent. They should also be grounded in other sciences as noted above; and a reading knowledge of German and French is required for candidacy for the degree of Doctor of Philosophy. The plan of the graduate courses involves three or four majors of formal courses and three majors or more of seminar courses in addition to research work in the Department. Certain courses from other departments depending on the student's preparation are also required. For the degree of Doctor of Philosophy the research work will usually extend over a period of three years. For the Master's degree Zoölogy 103, 105, 107, 201, 202, 205, or their equivalent, eight majors of graduate work, and a dissertation are required.

THE ZOÖLOGY CLUB

The members of the staff and the advanced students of the Department form a club which meets weekly for the presentation of the research work of members of the Department and for review and discussion of important new literature. The meetings are open to all students in the Department.

COURSES OF INSTRUCTION

For explanation of the numbering system, see page 18.

NOTE.—For hours see "Tabular View of Courses," pp. 61–62.

Zoölogy 103 or its equivalent is prerequisite for all the Senior College courses in the Department. But courses 105 or 107 may be accepted as its equivalent for advanced work in the Department at the option of the instructor offering advanced courses.

101. The Nature of the World and of Man.—A co-operative survey course in Natural Science, consisting of lectures and discussions covering the following topics: the nature and structure of matter, the nature of chemical processes, the stellar universe, the origin of the earth, the earth's changing climates and contours, the earth as the home of life, the nature and origin of life, the evolution of the plant kingdom, and the evolution of the lower animals. Mj. Autumn. Director, PROFESSOR NEWMAN. Discussion sections: (1) PROFESSOR NEWMAN; (2) PROFESSOR BRETZ; (3) ASSISTANT PROFESSOR COULTER. Lecturers: PROFESSORS STIEGLITZ, MOULTON, CHAMBERLIN, COWLES, NEWMAN, BRETZ, ASSOCIATE PROFESSORS LEMON, ALLEE, AND ASSISTANT PROFESSOR COULTER.

102. The Nature of the World and of Man (Continued).—The subjects to be covered are: the evolution of the higher animals, the evolution of man and of the human races, the human body from the anatomical and physiological points of view, evolution of the intelligence, social origins, the factors of organic evolution, race improvement. Mj. Winter. Director, PROFESSOR NEWMAN. Discussion sections: (1) PROFESSOR NEWMAN; (2) PROFESSOR BRETZ; (3) ASSISTANT PROFESSOR COULTER. Lecturers: PROFESSORS CARLSON, JUDD, NEWMAN, ASSOCIATE PROFESSORS BARTELMEZ, COLE, DOWNING, AND ROMER.

103. General Zoölogy.—Lectures and laboratory work constituting an introduction to the general principles and concepts of Zoölogy. Laboratory fee, $6.00. DM. Summer, First Term, PROFESSOR NEWMAN AND ASSISTANTS; Mj. Autumn, ASSISTANT PROFESSOR WILLIER AND ASSISTANTS; Winter, ASSOCIATE PROFESSOR WRIGHT AND ASSISTANTS.

105. Evolution, Genetics, and Eugenics.—An elementary course dealing with the history and principles of evolution and genetics and their application to modern experimental evolution and eugenics. Lectures, reading, and recitations. Mj. Summer, ASSOCIATE PROFESSOR WRIGHT; Autumn, PROFESSOR NEWMAN; Spring, sec. *a*, ASSOCIATE PROFESSOR WRIGHT; sec. *b*, PROFESSOR NEWMAN.

107. Field Zoölogy.—An introduction to local animal life based upon classification, distribution, and natural history of representatives of the different animal phyla living in this region. Laboratory fee, $3.00. Mj. Summer, ASSOCIATE PROFESSOR EMERSON; Spring, ASSOCIATE PROFESSOR ALLEE.

NOTE.—Courses 201, 202, 205 constitute a sequence running through the year. In special cases students who have credit for Botany 101, or who have studied Zoölogy in high school, may be admitted to the sequence without other prerequisites. Permission for such registration must be secured from the Department.

201. Invertebrate Zoölogy.—Study of representatives of the lower invertebrate groups (Protozoa, Porifera, Coelenterata, Plathelminthes, Nemathelminthes, Bryozoa, Brachiopoda), including the anatomy of the adult and the life-history, together with some discussion of the habits and distribution. Prerequisite: Zoölogy 103, or equivalent. Lectures, laboratory work, and demonstrations. Laboratory fee, $6.00. Mj. Autumn, PROFESSOR CHILD.

202. Invertebrate Zoölogy.—Comparative anatomy, development, and phylogeny of higher invertebrate groups (Echinodermata, Mollusca, Annelida, Arthropoda). Prerequisite: Zoölogy 103 or equivalent. Laboratory fee, $6.00. Mj Winter, ASSISTANT PROFESSOR WILLIER.

203. Entomology.—A general basis of morphology and classification for a consideration of the general biology of insects, without special reference to economic problems. Prerequisite: Zoölogy 103 or equivalent. Laboratory fee, $6.00. DM. Summer, Second Term, ASSOCIATE PROFESSOR EMERSON.

205. Vertebrate Zoölogy.—Comparative anatomy, development, and phylogeny of vertebrates. Prerequisite: Zoölogy 103, or equivalent. Laboratory fee, $6.00. Mj. Summer, DR. ELIOT; Winter, ASSOCIATE PROFESSOR MOORE; Spring, PROFESSOR NEWMAN AND ASSOCIATE PROFESSOR MOORE.

218. Embryology.—The early stages of development of invertebrates and vertebrates, including maturation and fertilization of the ovum, cleavage, and the formation of the germ layers; origin of the embryo. Embryological theories. Embryological technique. Prerequisite: Zoölogy 201, 202, 205, or their equivalents. Laboratory fee, $6.00. Mj. Autumn, ASSISTANT PROFESSOR WILLIER.

219. Embryology.—Continuation of course 218. Later development, especially of vertebrates. Prerequisite: Zoölogy 218. Laboratory fee, $6.00. Mj. Winter, ASSOCIATE PROFESSOR MOORE.

220. Vertebrate Embryology (for medical students).—Birds and mammals. Lectures, demonstrations, and laboratory work. Prerequisite: Zoölogy 103 and 205, or their equivalents. Laboratory fee, $6.00. Mj. Summer, Autumn, Spring, ASSOCIATE PROFESSOR MOORE, ASSISTANT PROFESSOR WILLIER, AND ASSISTANTS.

230. Animal Ecology.—A general survey of the relations between animals, and their environment, illustrated by field studies upon the nature and evolution of animal communities in the Chicago area. Prerequisite: Zoölogy 107, or equivalent. Laboratory fee, $3.00. Mj. ASSOCIATE PROFESSOR ALLEE. [Not given in 1926–27.]

231. Animal Geography.—A study of the world-distribution of animals, together with factors causing and limiting distribution. Lectures, conferences, and assigned topics. Prerequisite: 18 majors. Mj. Summer and Spring, ASSOCIATE PROFESSOR ALLEE.

240. Parasitology.—The biology, anatomy, and life-histories of animal parasites, including those productive of human disease. Prerequisite: Zoölogy 103 or 107, or equivalent. Laboratory fee, $6.00. Mj. Winter, ASSISTANT PROFESSOR WILLIER.

301. Comparative Histology.—The structure of tissues as related to their ontogenetic development, evolution, and function, of both invertebrates and vertebrates. Principles and methods of histological technique. Prerequisite: Zoölogy 201, 202, 205, or their equivalents. Laboratory fee, $6.00. Mj. Spring, ASSISTANT PROFESSOR WILLIER.

305. Animal Behavior.—Analysis of animal activities with reference to the physiology and distribution of animals in general, but with particular emphasis upon invertebrates and lower vertebrates. Prerequisite: Zoölogy, 3 majors; Chemistry, 3 majors. Laboratory fee, $6.00. Mj. Winter, ASSOCIATE PROFESSOR ALLEE.

310. Genetics.—A study of the principles of heredity and variation. Prerequisite: Zoölogy 103, 105, and Botany 101, or equivalent. Laboratory fee, $6.00. Mj. Summer and Winter, ASSOCIATE PROFESSOR WRIGHT.

311. Biometry.—A study of the application of statistical methods to biological problems with especial reference to the genetic phenomena of populations. Prerequisite: Zoölogy 310 and Mathematics (Elementary, Differential, and Integral Calculus), or equivalents. Laboratory fee, $6.00. Mj. Spring, ASSOCIATE PROFESSOR WRIGHT.

320, 321. Physiological Zoölogy.—The course is concerned with the physiological and dynamic aspects of Zoölogy and consists primarily of laboratory work with some of the simpler animals, which is supplemented by conferences and reading. Individual work, intended as training in methods, illustration of principles, and preparation for research may be assigned to each student. Prerequisite: Zoölogy 103 (or 201), 202, 205, Chemistry 101, 102, 103, or their equivalent. Laboratory fee, $6.00 per Mj. Mj. or DMj. Autumn and Winter, PROFESSOR CHILD.

330. Marine Biology (at the Marine Biological Laboratory at Woods Hole, Mass.). —Credit is given at the University of Chicago for courses taken at this laboratory. Registration at Woods Hole only. DMj. Summer, PROFESSOR LILLIE.

401. Physiology of Development.—A consideration of existing data and views as material for a theory of development and heredity. Lectures, conferences, assigned topics. Prerequisite: Zoölogy 218 and 219, or equivalent. Mj. Autumn, PROFESSOR LILLIE.

403. Individuation and Reproduction.—A consideration of the problem of organic individuality and the processes and conditions of individuation and reproduction. The relations between regulatory processes, experimental reproduction, and the various processes of reproduction in nature. The work of the course will consist of lectures, reports, discussion of literature, and quizzes. Mj. Spring, PROFESSOR CHILD.

405. Cytological Problems.—Among the subjects considered are: morphology and physiology of the cell, cell division, the cell and the organism in growth, reproduction and regulation, the various methods of cytological research, their objects, and their value. The work of the course consists of lectures, reports, discussions, and quizzes. Mj. PROFESSOR CHILD. [Not given in 1926–27.]

407. Organic Symmetry and Twinning.—An analysis of the basis of symmetry in organisms, of the phenomena of asymmetry and reversed symmetry, and especially of the causes and consequences of twinning. Mj. PROFESSOR NEWMAN. [Not given in 1926–27.]

408. Problems in Organic Evolution.—A critical survey of the present status and historical significance of the leading theories of organic evolution, with especial emphasis upon Darwinism, Lamarckism, Orthogenesis, the Mutation Theory, the Germ-plasm Theory, and Neo-Mendelian concepts. Prerequisite: Zoölogy 105 or equivalent, and four other majors of Zoölogy. DM. Summer, First Term; Mj. Winter, PROFESSOR NEWMAN.

411. Animal Aggregations.—A study of the different types of social organization and relations of animals, their origin and effect upon the individual and the species. Mj. Winter, ASSOCIATE PROFESSOR ALLEE.

412. Problems in Animal Behavior and Ecology.—Individual instruction in beginning research in laboratory, field, or library problems for advanced undergraduate or graduate students. Prerequisite: Zoölogy 230, or 231 or 305. Mj. each Quarter, ASSOCIATE PROFESSOR ALLEE.

416. Microchemistry of the Cell.—Laboratory problems on cellular activities mostly by microchemical methods. Conferences and discussions. Laboratory fee, $6.00. Mj. Spring, ASSISTANT PROFESSOR WILLIER.

421. Problems of Fertilization.—A consideration of the historical development and present status of the problems of fertilization. Prerequisite: Zoölogy 401, 407, and either 403 or 405. Mj. PROFESSOR LILLIE. [Not given in 1926–27.]

422. The Biology of Sex.—A consideration of the biological problems of sex. Prerequisite: Zoölogy 401, 407, and either 403 or 405. Mj. Spring, PROFESSOR LILLIE.

425. The Problem of Reproduction in Organisms.—A study of the facts and theories concerning the various methods of reproduction in organisms; the effect of physiological and physical isolation of parts in nature and experiment; the germ-plasm theory in relation to the data of observation and experiments. Special topics will be assigned to each student for report and discussion. Prerequisite: Zoölogy 401, 403 or 405, or their equivalent. Mj. PROFESSOR CHILD. [Not given in 1926–27.]

426. Senescence and Rejuvenescence.—A study of the facts and theories bearing upon the problem of age in organisms. The physiological and structural changes during aging. The question of rejuvenescence. Prerequisite: Zoölogy 401, 407, and 403 or 405, or their equivalent. Mj. Winter, PROFESSOR CHILD.

451. Zoölogical Problems.—Research at the Marine Biological Laboratory, Woods Hole, Mass. Prerequisite: such of the elementary courses as are essential to the special topic undertaken. Registration at Woods Hole only. 2 or 3Mjs. Summer, PROFESSOR LILLIE.

452. Zoölogical Problems.—Research. Laboratory fee, $6.00. 1 to 3Mjs. Summer, PROFESSOR NEWMAN, ASSOCIATE PROFESSORS ALLEE, WRIGHT, EMERSON, AND MOORE.

453, 454, 455. Zoölogical Problems.—Research work. For graduate students. Prerequisite: training essential to the special topic undertaken. Laboratory fee, $6.00 1 to 3Mjs. Autumn, Winter, and Spring, PROFESSORS LILLIE, CHILD, AND NEWMAN, ASSOCIATE PROFESSORS ALLEE, WRIGHT, AND MOORE, AND ASSISTANT PROFESSOR WILLIER.

TABULAR VIEW OF COURSES OFFERED BY THE DEPARTMENT OF ZOÖLOGY, 1926–27

Hour	Summer, 1926	Autumn 1926	Winter. 1927	Spring, 1927
8:00	205. Vertebrate Zoölogy M.–F., 8:00–10:00 (Eliot) 231. Animal Geography M –F. (Allee)	201. Invertebrate Zoölogy Lect.: M., Tu., 9:00 Lab.: W., Th., F , 8:00–10:00 (Child) 220. Vertebrate Embryology Lect.: W., Th., F., 9:00 Lab.: M., Tu., 8:00–11:00 (Moore)	103. General Zoölogy M.–F., 8:00–10:00 (Wright) 202. Invertebrate Zoölogy Lect.: M., Tu., 9:00 Lab.: W., Th., F. 8:00–10:00 (Willier) 219. Embryology M.–F. 8:00–10:00 (Moore)	105a. Evolution, Genetics, and Eugenics M.–F. (Wright) 107. Field Zoölogy Lect.: W., Th., 8:00 Lab.: M., Tu., 8:00–10:00 Field· Sat. mornings (Allee)
9:00	310. Genetics Lect.: M., W., 9:00 Lab.: arranged (Wright)	101. The Nature of the World and of Man M.–F. (Newman, Bretz, Coulter)	102 The Nature of the World and of Man M.–F. (Newman, Bretz, Coulter) 310. Genetics Lect.: M., W., 9:00 Lab : arranged (Wright)	220. Vertebrate Embryology Lect.: W., Th., F., 9:00 Lab.: M., Tu., 9:00–12:00 (Moore, Willier and Assistants) 311. Biometry Lect.: M., W. 9:00 Lab.: arranged (Wright)
10:00	103. General Zoölogy Lect.: M.–F. 10:00 Lab · M.–F , 8:00–10:00 DM. 1st T. (Newman) 203. Entomology Lect.: 10:00 Lab.: 8:00–10:00 DM. 2d T (Emerson)	218. Embryology M.–F 10:00–12:00 (Willier)	205. Vertebrate Zoölogy M –F 10:00–12:00 (Moore) 305. Animal Behavior Lect.: M., Tu., 11:00 Lab.: W., Th., F., 10:00–12 00 (Allee)	231 Animal Geography M.–F (Allee)

TABULAR VIEW OF COURSES OFFERED BY THE DEPARTMENT OF ZOÖLOGY, 1926–27—*Continued*

Hour	Summer, 1926	Autumn, 1926	Winter, 1927	Spring, 1927
11:00	105. Evolution, Genetics, and Eugenics M.–F. (Wright)	105. Evolution, Genetics, and Eugenics M.–F. (Newman)		105*b*. Evolution, Genetics, and Eugenics M.–F. (Newman)
1:30	107. Field Zoölogy Lect.: W., Th. 1:30 Lab.: M., Tu., 1:30–3:30 Field: Sat. mornings (Emerson) 220. Vertebrate Embryology Lect.: W., Th., F., 1:30 Lab.: M., Tu., 1:30–4:30 (Eliot)	103. General Zoölogy Lect.: Th., F., 1:30 Lab.: Sec. *a*, M., Tu., W., 10:00–12:00 Quiz, F., 11:00 Sec. *b*, M., Tu., W., 1:30–3:30 Quiz, F., 2:30 (Willier)	240. Parasitology Lect.: M., Tu., 1:30 Lab.: W., Th., F., 1:30–3:30 (Willier)	205. Vertebrate Zoölogy M.–F., 1:30–3:30 (Newman, Moore) 301. Comparative Histology Lect.: Th., F., 1:30 Lab.: M., Tu., W., 1:30–3:30 (Willier)
Hours to be arranged	330. Marine Biology (Lillie) 408. Problems in Organic Evolution DM. 1st T. (Newman) 412. Problems in Animal Behavior and Ecology (Allee) 451. Zoölogical Problems (Lillie) 452. Zoölogical Problems (Newman, Allee, Wright, Emerson, Moore)	320. Physiological Zoölogy (Child) 401. Physiology of Development (Lillie) 453. Zoölogical Problems (Research) (Lillie, Child Newman, Allee, Wright, Moore, Willier)	321. Physiological Zoölogy (Child) 408. Problems in Organic Evolution (Newman) 411. Animal Aggregations (Allee) 412. Problems in Animal Behavior and Ecology (Allee) 426. Senescence and Rejuvenescence (Child) 454. Zoölogical Problems (Research) (Lillie, Child, Newman, Allee, Wright, Moore, Willier)	403. Individuation and Reproduction (Child) 412. Problems in Animal Behavior and Ecology (Allee) 416. Microchemistry of the Cell (Willier) 422. Biology of Sex (Lillie) 455. Zoölogical Problems (Research) (Lillie, Child, Newman, Allee, Wright, Moore, Willier)

THE DEPARTMENT OF ANATOMY

OFFICERS OF INSTRUCTION

Robert Russell Bensley, A.B., M.B., Sc.D., Professor of Anatomy.
Charles Judson Herrick, Ph.D., Professor of Neurology.
Basil Coleman Hyatt Harvey, A.B., M.B., Professor of Anatomy.
Preston Kyes, A.M., M.D., Sc.D., Professor of Preventive Medicine.
Alexander A. Maximow, M.D., Professor of Anatomy.
George William Bartelmez, Ph.D., Associate Professor of Anatomy.
Charles Henry Swift, M.D., Ph.D., Assistant Professor of Anatomy.
Patrick Arthur Delaney, Ph.D., Instructor in Anatomy.
Theophil Paul Grauer, S.B., Instructor in Anatomy.
John C. Rogers, A.B., Instructor in Preventive Medicine.
Caroline May Bensley, S.B., Research Assistant in Anatomy.

Leon Stansfield Stone, Ph.D., Assistant Professor of Anatomy, Yale University (Summer, 1926).
Daniel Lytle Stormont, Ph.D., Instructor in Anatomy, Yale University (Summer, 1926).

FELLOW, 1926–27

Earl Carey, M.D. (Seymour Coman Fellow)

INTRODUCTORY

The Department of Anatomy is organized to provide for instruction and research in vertebrate anatomy, including human anatomy, histology, embryology, and neurology. Two majors of elementary biology (Zoölogy 103 and Botany 101, or their equivalent) are prerequisite for all courses in the Department except course 216.

Students of medicine and other students desiring to study anatomy are strongly recommended to plan their work so that courses in vertebrate anatomy (Zoölogy 205) and vertebrate embryology precede the work in human anatomy. The recommended order of courses in preparation for work in human anatomy would thus be as follows: Zoölogy 103, Botany 101, Zoölogy 205, Anatomy 210, and Zoölogy 220.

All students taking courses in Anatomy should have a good knowledge of French and German. For graduate students this is indispensable.

UNDERGRADUATE SEQUENCES

I. PRINCIPAL SEQUENCES

Zoölogy 205, Zoölogy 220, Anatomy 201, 202, 203, 204, 210, 211, 212, 215.

II. SECONDARY SEQUENCES

Zoölogy 205, Zoölogy 220, Anatomy 210, and three majors selected from Anatomy 201, 202, 203, 204, 212, 215.

CANDIDACY FOR HIGHER DEGREES

All candidates for the degree of Doctor of Philosophy in Anatomy should have undergraduate credit for courses 201, 202, 203, 204, 210, 317, or their equivalent. Graduate courses will be selected after consultation with the Department.

Candidates for the degree of Master of Science in Anatomy are required to take courses in Anatomy amounting to nine majors, of which three majors must be in research work chosen from courses 428, 429, 430, 433, 441.

COURSES OF INSTRUCTION

For explanation of the numbering system, see page 18.

201–4. Human Dissection.—The student makes a complete dissection of all structures, using atlases and textbooks as guides. He will demonstrate his work to the instructor daily and there will be frequent conferences in the laboratory. Laboratory fee, $6.00 per major. Lectures, 2:30, M., Tu., W.; laboratory work, 2:30–5:30, M.–F. 3½Mjs. Summer, PROFESSOR HARVEY; Autumn, Winter, Spring, PROFESSOR HARVEY, ASSISTANT PROFESSOR SWIFT, MR. GRAUER, AND DR. DELANEY.

Courses 201 and 202.—Dissection of upper and lower extremities. 1½Mjs.

Courses 203.—Dissection of thorax and abdomen. 1Mj.

Courses 204.—Dissection of head and neck. 1Mj.

210. Histology.—A brief course on the structure of the cell and elementary tissues will be followed by a systematic study of the structure of organs. Laboratory fee, $6.00. Mj. Summer, 9:00–11:00, ASSISTANT PROFESSOR STONE; Autumn and Winter, 8:00–10:00, PROFESSOR MAXIMOW; Spring, 8:00–10:00, PROFESSOR BENSLEY.

211. Histology of the Organs of Internal Secretion.—Laboratory fee, $6.00. Mj. Autumn, 8:00–10:00, PROFESSOR BENSLEY.

212. Histology of the Urinogenital System.—Laboratory fee, $6.00. Mj. Winter, 8:00–10:00, PROFESSOR BENSLEY.

215. Structure of the Female Reproductive Organs.—Prerequisite: Zoölogy 220 and Anatomy 210. Laboratory fee, $6.00. Mj. Autumn, Winter, and Spring, ASSOCIATE PROFESSOR BARTELMEZ.

220. Development of the Skeleton.—A laboratory study of the development of the cartilaginous and bony skeleton in man on the basis of gross preparations and serial sections. May include the histogenesis of bone. Prerequisite: Anatomy 210 and Zoölogy 219 or 220. Laboratory fee, $6.00 per Mj. Mj. or ½Mj. Winter and Spring, ASSOCIATE PROFESSOR BARTELMEZ.

222. Anatomy of the Foetus and Infant.—Mj. Summer, PROFESSOR HARVEY; Autumn, Winter, and Spring, ASSISTANT PROFESSOR SWIFT.

316. Elementary Neurology.—Course designed especially for graduate students in psychology. Others may be admitted after consultation with the instructor. M. Summer, First Term, 3:30; Mj. Autumn, 8:00–10:00, M.–F., PROFFESSOR HERRICK.

317. Anatomy of the Nervous System.—An introductory course for medical students and others. Prerequisite: Anatomy 210 and 204 and Zoölogy 220. Laboratory fee, $6.00. Mj. Summer, 11:00–1:00, PROFESSOR HERRICK AND DR. STORMONT; Autumn and Winter, 11:00–1:00, PROFESSOR HERRICK AND ASSOCIATE PROFESSOR BARTELMEZ.

318. Advanced Neurology.—Lectures and laboratory work on subjects to be determined by the requirements of the class. Prerequisite: Anatomy 316 or 317 and conference with the instructor. Laboratory fee, $6.00. Mj. Spring, PROFESSOR HERRICK.

325. Comparative Neurology.—The evolution of the architecture and function of the vertebrate nervous system. Prerequisite: Anatomy 316 or 317. Mj. Spring, PROFESSOR HERRICK.

331. Immunology.—Consideration of susceptibility and resistance to disease with special reference to the mechanism of host defense in the bacterial infections. Mj. or DMj. Summer, MR. ROGERS; Autumn and Spring, PROFESSOR KYES.

332. Immunology.—Continuation of course 331 with special reference to immune sera and to the qualitative and quantitative estimation of toxins and antitoxins. Mj. or DMj. Winter, PROFESSOR KYES.

333. Morphology and Histogenesis of the Blood and Connective Tissues.—Laboratory fee, $6.00. Mj. Spring, PROFESSOR MAXIMOW.

337. Introduction to Research in Anatomy.—Mj. Spring, PROFESSOR BENSLEY.

340. Organogeny.—This course affords an opportunity to work on material in the Human Embryological Collection which comprises about nine hundred specimens ranging from three weeks old to full term. A single system of organs may be studied in detail or several systems may be selected according to individual needs. Prerequisite: Anatomy 210 and Zoölogy 219 or 220. Laboratory fee, $6.00 per Mj. Mj. or DMj. Winter and Spring, ASSOCIATE PROFESSOR BARTELMEZ.

341. Advanced Work.—Opportunities are afforded for advanced work in all branches of anatomy. Laboratory fee, $6.00 per Mj. PROFESSOR BENSLEY, PROFESSOR HERRICK, PROFESSOR HARVEY, PROFESSOR MAXIMOW, AND OTHERS.

349, 350, 351. History of Anatomy.—½Mj. Autumn, Winter, and Spring, ASSISTANT PROFESSOR SWIFT.

428, 429, 430. Neurological Research.—Admission to these courses may be obtained only after consultation with the Professor of Neurology. A good knowledge of general anatomy, physiology, and neurology will be required. 3Mjs. or 3DMjs. Autumn, Winter, Spring, and Summer, PROFESSOR HERRICK.

433. Research in Immunology.—Mj. or DMj. Summer, MR. ROGERS; Autumn, Winter, and Spring, PROFESSOR KYES.

441. Research Work.—The laboratory is equipped for the investigation of anatomical problems. Suitably trained persons, who have the time to do such work, will be encouraged to undertake it. PROFESSOR BENSLEY, PROFESSOR HARVEY, PROFESSOR MAXIMOW, ASSOCIATE PROFESSOR BARTELMEZ, ASSISTANT PROFESSOR SWIFT.

445, 446, 447. Seminar.—A limited number of students may, by arrangement with the Professor of Anatomy, be admitted to a seminar in which subjects of current interest in anatomy will be discussed. ½Mj. Autumn, Winter, and Spring, PROFESSOR BENSLEY AND ASSISTANT PROFESSOR SWIFT.

TABULAR VIEW OF COURSES OFFERED BY THE DEPARTMENT OF ANATOMY, 1926–27

Hour	Summer, 1926	Autumn, 1926	Winter, 1927	Spring, 1927
8:00		210. Histology (Maximow) Lect.: Tu., 8:00 Lab.: M., W., Th., F., 8:00–10:00 211. Histology of the Organs of Internal Secretion 8:00–10:00 (Bensley) 316. Elementary Neurology (Herrick) Lect.: F., 8:00 Lab.: M., Tu., W., Th., 8:00–10:00	210. Histology (Maximow) Lect.: Tu., 8:00 Lab.: M., W., Th., 8:00–10:00 212. Histology of the Urino-genital System (Bensley) 8:00–10:00	210. Histology (Bensley) Lect. and Lab.: M.–F., 8:00–10:00
9:00	210. Histology (Stone) Lab.: M.–F., 9:00–11:00			
11:00	317. Anatomy of the Nervous System (Herrick, Stormont) Lect.: M., Tu., 11:00 Recit.: Tu., 12:00 Lab.: W., Th., F., 11:00–1:00	317. Anatomy of the Nervous System (Herrick, Bartelmez) Lect.: W., 11:00 Lab.: Sec. *a*, M., Tu., Th., F., 11:00–1:00 Sec. *b*, M., Tu., 2:30–5:30; W., 2:30–4:30	317. Anatomy of the Nervous System (Herrick, Bartelmez) Lect.: W., 11:00 Lab.: M., Tu., Th., F., 11:00–1:00	
2:30	201, 202. Dissection of Arm and Leg 1½ Mjs. (Harvey) 203. Dissection of Thorax and Abdomen (Harvey) 2:30–5:30 204. Dissection of Head and Neck 2:30–5:30 (Harvey)	201 202. Dissection of Arm and Leg Lect.: M., 2:30 (Harvey, Swift) Lab.: M., 3:30–5:30 Tu. W., Th., F., 2:30–5:30 1½ Mjs. 203. Dissection of Thorax and Abdomen (Harvey, Swift) Lect.: Tu., 2:30 Lab.: 8 hrs. per week 204. Dissection of Head and Neck Lect.: W., 2:30 (Harvey, Swift) Lab.: 8 hrs. per week	201, 202. Dissection of Arm and Leg Lect.: M., 2:30 (Harvey, Swift) Lab.: M., 3:30–5:30 Tu., W., Th., F., 2:30–5:30 1½ Mjs. 203. Dissection of Thorax and Abdomen (Harvey, Swift) Lect.: Tu., 2:30 Lab.: 8 hrs. per week 204. Dissection of Head and Neck Lect.: W., 2:30 (Harvey, Swift) Lab.: 8 hrs. per week	201, 202. Dissection of Arm and Leg Lect.: M., 2:30 (Harvey, Swift) Lab.: M., 3:30–5:30 Tu., W., Th., F., 2:30–5:30 1½ Mjs. 203. Dissection of Thorax and Abdomen (Harvey Swift) Lect.: Tu., 2:30 Lab.: 8 hrs. per week 204. Dissection of Head and Neck Lect.: W., 2:30 (Harvey, Swift) Lab.: 8 hrs. per week

TABULAR VIEW OF COURSES OFFERED BY THE DEPARTMENT OF ANATOMY, 1926-27—*Continued*

Hour	Summer, 1926	Autumn, 1926	Winter, 1927	Spring, 1927
Hours to be arranged	222. Anatomy of the Foetus and Infant (Harvey) 331. Immunology Mj. or DMj. (Rogers) 341. Advanced Work (Herrick, Harvey) 428. Neurological Research Mj. or DMj. (Herrick) 433. Research in Immunology Mj. or DMj. (Rogers) 441. Research Work Mj. or DMj. (Herrick, Harvey)	215. Structure of the Female Reproductive Organs (Bartelmez) 222. Anatomy of the Foetus and Infant (Swift) 331. Immunology Mj. or DMj. (Kyes) 341. Advanced Work 349. History of Anatomy ½Mj. (Swift) 428. Neurological Research Mj. or DMj. (Herrick) 433. Research in Immunology (Kyes) 441. Research Work 445. Seminar ½Mj. (Bensley, Swift)	215. Structure of the Female Reproductive Organs (Bartelmez) 220. Development of the Skeleton Mj. or ½Mj. (Bartelmez) 222. Anatomy of the Foetus and Infant (Swift) 332. Immunology Mj. or DMj. (Kyes) 340. Organogeny Mj. or DMj. (Bartelmez) 341. Advanced Work 350. History of Anatomy ½Mj. (Swift) 429. Neurological Research Mj. or DMj. (Herrick) 433. Research in Immunology (Kyes) 441. Research Work 446. Seminar ½Mj. (Bensley, Swift)	215. Structure of the Female Reproductive Organs (Bartelmez) 220. Development of the Skeleton Mj. or ½Mj. (Bartelmez) 222. Anatomy of the Foetus and Infant (Swift) 318. Advanced Neurology (Herrick) 325. Comparative Neurology (Herrick) 331. Immunology Mj. or DMj. (Kyes) 333. Morphology and Histogenesis of the Blood and Connective Tissues (Maximow) 337. Introduction to Research in Anatomy (Bensley) 340. Organogeny Mj. or DMj. (Bartelmez) 341. Advanced Work 351. History of Anatomy ½Mj. (Swift) 430. Neurological Research Mj. or DMj. (Herrick) 433. Research in Immunology (Kyes) 441. Research Work 447. Seminar ½Mj. (Bensley, Swift)

THE DEPARTMENT OF PHYSIOLOGY

OFFICERS OF INSTRUCTION

Anton Julius Carlson, A.M., Ph.D., M.D., LL.D., Professor and Chairman of the Department of Physiology.
Arno Benedict Luckhardt, Ph.D., M.D., Professor of Physiology.
Ralph Stayner Lillie, Ph.D., Professor of Physiology.
David Judson Lingle, Ph.D., Associate Professor Emeritus of Physiology.
Nathaniel Kleitman, Ph.D., Assistant Professor of Physiology.
Theodore Koppanyi, Ph.D., Instructor in Physiology.
Marie Agnes Hinrichs, Ph.D., National Research Fellow in General Physiology.
Margarete Meta Kunde, Ph.D., M.D., Research Associate in Physiology.
Edmund Jacobson, Ph.D., Research Associate in Physiology.
George Earle Wakerlin, S.M., Associate in Physiology.
Harold G. O. Holck, S.B., Assistant in Physiology.
Erma Smith, A.B., S.B., Assistant in Physiology.
Nell Stewart, S.B., Assistant in Physiology.

Fred Terry Rogers, Ph.D., Professor of Physiology, Baylor University Medical College (Summer, 1926).

FELLOWS, 1926–27

Walter Lincoln Palmer, M.D. (Seymour Coman Fellow)
Donald Wright Thorup, A.B. (Fleischmann Fellow)

INTRODUCTORY

The courses of the Department of Physiology are arranged for four classes of students:

I. Junior and Senior College students who desire some knowledge of human physiology, foods, and personal hygiene as an educational equipment for life.

II. Junior or Senior College students who wish to acquire a more extensive knowledge of the structure and functions of the human body, or who wish to study biology from the physiological side. To satisfy the needs of these students and enable them to cover the subject satisfactorily, a three-major course is given: courses 102, 103, and 104, Introductory Physiology.

III. Students wishing to specialize in Physiology, or students of other biological sciences who wish to take minor work in advanced Physiology.

IV. Medical students.

For all courses except 101, General Biology and General Inorganic Chemistry, or equivalent courses, are prerequisite. For each major or double-minor course requiring laboratory work, the laboratory fee is $6.00.

UNDERGRADUATE SEQUENCES

The Department recommends that students taking Physiology as a major subject should pursue the following courses in introduction: Physics 102, 111, 112; Chemistry 104, 105, 120, 140, 240; Physiology 102, 103, 104; Zoölogy 103, or Botany 101; Geology 101. In addition one course in the Comparative Anatomy of Vertebrates.

I. PRINCIPAL SEQUENCES

Zoölogy 220, Anatomy 210, Bacteriology 201, Physiology 201, 202, 203, Physiological Chemistry 201, 205, Anatomy 317, or Psychology 101.

II. SECONDARY SEQUENCES

(Prerequisite: Botany 102, Physiology 102, 103) Zoölogy 220, Anatomy 210, Physiological Chemistry 201, Bacteriology 201, Physiology 201, 202, Psychology 101.

THE BACHELOR'S DEGREE

Senior College students wishing to take their S.B. degree in Physiology should take courses 102, 103, 104, 201, 202, 203. Courses in Chemistry, Physiological Chemistry, Physics, Histology, Bacteriology, Embryology, and Plant Physiology to the extent of three to four majors may be accepted as part of the total of nine majors required for graduation.

THE MASTER'S DEGREE

The requirements for the Master's degree, if all the work is taken in this Department, are: (1) Research, three majors (course 411); (2) five majors from the Graduate or Senior College courses; (3) dissertation. The Senior College courses that may be counted toward the Master's degree are 201, 202, 203.

THE DEGREE OF DOCTOR OF PHILOSOPHY

Courses 201, 202, 203, and Physiological Chemistry 201 and 205, or their equivalents, are required of all candidates for the Doctor's degree, with Physiology as the major subject. The further selection of courses is arranged in each case by consultation.

COURSES OF INSTRUCTION

For explanation of the numbering system, see page 18.

101. Physiology of the Human Body.—An introductory and elementary course, covering the main facts and important recent advances in human physiology, foods, nutrition, personal hygiene, and laws of health, primarily for undergraduate students who desire this knowledge as a part of their educational equipment for life, but who are unable to devote more of their college time to this subject. Lectures, W., Th., F., 1:30; laboratory demonstrations, M., Tu., 1:30–3:30. Laboratory fee, $6.00. Mj. Summer, Assistant Professor Kleitman and Assistants; Winter, Professor Carlson and Assistants; Spring, Assistant Professor Kleitman and Assistants.

Courses 102, 103, and 104 are intended for college students who aim to secure a more detailed and comprehensive knowledge of physiology. This sequence of courses prepares the student for advanced work in physiology and is useful to students who intend to specialize in other branches of biology. Course 103 is particularly helpful to students in Home Economics.

102. Physiology of Muscle, Nerve, Reflexes, Blood, and Circulation.—Laboratory fee, $6.00. Mj. Autumn, lectures, W., Th., F., 10:00; laboratory, M., Tu., 10:00–12:00, Assistant Professor Kleitman and Assistant.

103. Physiology of Respiration, Digestion, Secretion, Absorption, and Metabolism.—Laboratory fee, $6.00. Mj. Winter, lectures, W., Th., F., 10:00; laboratory, M., Tu., 10:00–12:00, Assistant Professor Kleitman and Assistant.

104. Physiology of Central Nervous System, Special Senses, Internal Secretion, and Reproduction.—Laboratory fee, $6.00. Mj. Spring, lectures, W., Th., F., 10:00; laboratory, M., Tu., 10:00–12:00, Assistant Professor Kleitman and Assistant.

201.[1] **Physiology of Blood, Circulation, and Respiration.**—Lectures and recitations, 3 hours a week; laboratory work, 6 hours a week. Prerequisite: Physiological Chemistry. Laboratory fee, $6.00. Mj. Summer, PROFESSOR ROGERS AND ASSISTANTS; Autumn and Spring, PROFESSOR CARLSON, DR. KOPPANYI, MR. WAKERLIN, AND ASSISTANTS.

202. Physiology of Digestion, Metabolism, Absorption, Secretion, Excretion, Muscles, and Heat.—Lectures and recitations, 3 hours a week; laboratory, 6 hours a week. Prerequisite: Physiology 201. Laboratory fee, $6.00. Mj. Summer, PROFESSOR ROGERS; Autumn and Spring, PROFESSOR LUCKHARDT AND ASSISTANTS.

203. Physiology of the Nervous System and the Senses.—Lectures, two a week; recitation and conference, one a week; laboratory, 6 hours a week. Prerequisite: Anatomy 317 and Physiology 201. Laboratory fee, $6.00. Mj. Summer, ASSISTANT PROFESSOR KLEITMAN AND ASSISTANTS; Winter, PROFESSOR LUCKHARDT, ASSISTANT PROFESSOR KLEITMAN, AND ASSISTANTS.

301. Special Physiology of Mammals.—Including the experiments not given in the general courses. Prerequisite: Physiology 201, 202, or 203, or equivalent. Laboratory fee, $6.00. ½Mj. Winter, S., 8:00–12:00, PROFESSOR LUCKHARDT.

303. The Principles of Physiology.—As they are applied to the clinical examination of the central nervous system and special senses. Laboratory work limited to ten students; registration for laboratory by conference with instructor. Laboratory fee, $3.00. ½Mj. Spring, PROFESSOR LUCKHARDT.

307. Principles and Problems of Human Nutrition and Dietetics.—Prerequisite: Physiology 202. Laboratory work limited to ten students; registration for laboratory by conference with instructor. Laboratory fee, $6.00. Mj. Autumn, PROFESSOR CARLSON.

401. Special Physiology of the Gastrointestinal Tract.—Including disorders of digestion, ulcer, obstruction, intestinal stasis, and closely allied subjects. Prerequisite: Physiology 202. Mj. [Not given in 1926–27.]

403, 404, 405. General Physiology of Protoplasm.—Properties and physicochemical constitution of living matter; rôle of surface processes in living matter; relation of colloids to protoplasmic structure; permeability and dependent phenomena; influence of chemical and physical agents on protoplasm; irritability and its modifications; stimulation and inhibition; transmission in nerve and other protoplasmic systems; special activities (contraction, secretion, etc.). Prerequisite: Inorganic and Organic Chemistry, General Physics, General Zoölogy or Botany, Introductory Physiology. Laboratory fee, $6.00. 3Mjs. Autumn, Winter, and Spring, PROFESSOR LILLIE AND ASSISTANTS.

407. Special Physiology of the Glands of Internal Secretion.—Laboratory work limited to ten students; registration for laboratory by conference with instructor. Laboratory fee, $6.00. Mj. or ½Mj. Summer and Winter, PROFESSORS CARLSON AND LUCKHARDT AND ASSISTANTS.

409. Seminar in Physiology Group.—Weekly. No credit. Summer, Autumn, Winter, and Spring, PROFESSORS CARLSON, LUCKHARDT, KOCH, AND LILLIE, ASSOCIATE PROFESSOR TATUM, ASSISTANT PROFESSORS KLEITMAN AND HANKE.

411. Research in Physiology.—Laboratory fee, $6.00 per Mj. Mj. or DMj. each Quarter, PROFESSORS CARLSON AND LUCKHARDT, ASSISTANT PROFESSOR KLEITMAN.

413. Research in General Physiology.—Laboratory fee, $6.00 per Mj. Mj. or DMj. Autumn, Winter, and Spring, PROFESSOR LILLIE.

[1] Courses 201, 202, and 203 will be repeated in the Summer Quarter, 1926.

TABULAR VIEW OF COURSES OFFERED BY THE DEPARTMENT OF PHYSIOLOGY, 1926–27

Hour	Summer, 1926	Autumn, 1926	Winter, 1927	Spring, 1927
8:00	202. Physiology of Digestion, Metabolism, etc. (Rogers) Lect.: M., Tu., W., 8:00 Lab.: Th., F., 8:00–11:00	201. Physiology of Blood, Circulation, etc. (Carlson) Lect.: W., Th., F., 8:00 Lab.: M., Tu., 8:00–11:00	301. Special Physiology of Mammals (Luckhardt) ½Mj Sat., 8:00–12:00	201. Physiology of Blood Circulation. etc. (Carlson) Lect.: M., Tu., W., 8:00 Lab.: Sec *a*, Th., F., 8:00–11:00 Sec. *b*, Th., F., 1:30–4:30
9:00		202. Physiology of Digestion. Metabolism, etc. (Luckhardt) Lect.: M., Tu., W., 9:00 Lab.: Sec. *a*, Th., F., 8:00–11:00 Sec. *b*, Th., F., 11:30–4:30	203. Physiology of Nervous System (Luckhardt, Kleitman) Lect.: M., Tu., W., 9:00 Lab.: Sec. *a*, Th., F., 8:00–11:00 Sec. *b*, Th., F., 1:30–4:30	202. Physiology of Digestion, Metabolism, etc. (Luckhardt) Lect.: W., Th., F., 11:00 Lab.: M., Tu., 10:00–1:00
10:00		102. Physiology of Muscle, Nerve, Reflexes, Blood, and Circulation (Kleitman) Lect.: W., Th., F., 10:00 Lab.: M. Tu., 10:00–12:00	103. Physiology of Respiration, Digestion, Secretion, Absorption, and Metabolism (Kleitman) Lect.: W., Th., F., 10:00 Lab.: M , Tu., 10:00–12:00	104. Physiology of Central Nervous System, Special Senses, Internal Secretion, and Reproduction (Kleitman) Lect.: W., Th., F., 10:00 Lab.: M., Tu., 10:00–12:00
1:30	101. Physiology of the Human Body (Kleitman) Lect.: Tu. W., Th., F., 1:30 Lab.: M., 1:30–3:30		101. Physiology of the Human Body (Carlson) Lect.: W., Th., F., 1:30 Lab.: M., Tu., 1:30–3:30	101. Physiology of the Human Body (Kleitman) Lect.: W., Th., F., 1:30 Lab.: M., Tu., 1:30–3:30
Hours to be arranged	**4:30** 203. Physiology of the Nervous System (Kleitman) Lect.: M., Tu., W., 4:30 Lab.: Th., F., 1:30–4:30 201. Physiology of Blood, Circulation, etc. (Rogers) 407. Advanced Physiology of the Glands of Internal Secretion (Carlson) 409. Seminar in Physiology Group (Carlson, Koch, Rogers, Tatum, Kleitman) 411. Research in Physiology (Carlson, Rogers, Kleitman)	307. Principles and Problems of Human Nutrition and Dietetics (Carlson) 403. General Physiology of Protoplasm (Lillie) 409. Seminar in Physiology Group (Carlson, Luckhardt, Koch, Lillie, Tatum, Kleitman, Hanke) 411. Research in Physiology (Carlson, Luckhardt. Kleitman) Mj. or DMj. 413. Research in General Physiology Mj. or DMj. (Lillie)	404. General Physiology of Protoplasm (Lillie) 407. Special Physiology of the Glands of Internal Secretion (Carlson, Luckhardt) 409. Seminar in Physiology Group (Carlson, Luckhardt, Koch, Lillie, Tatum, Kleitman, Hanke) 411. Research in Physiology (Carlson, Luckhardt. Kleitman) Mj. or DMj. 413. Research in General Physiology Mj. or DMj. (Lillie)	303. The Principles of Physiology ½Mj. (Luckhardt) 405. General Physiology of Protoplasm (Lillie) 409. Seminar in Physiology Group (Carlson, Luckhardt, Koch, Lillie, Tatum, Kleitman, Hanke) 411. Research in Physiology (Carlson Luckhardt, Kleitman) Mj. or DMj. 413. Research in General Physiology Mj. or DMj (Lillie)

THE DEPARTMENT OF PHYSIOLOGICAL CHEMISTRY AND PHARMACOLOGY

A. OFFICERS OF INSTRUCTION IN PHYSIOLOGICAL CHEMISTRY

Fred Conrad Koch, Ph.D., Professor of Physiological Chemistry and Acting Chairman.
Albert Baird Hastings, Ph.D., Professor of Physiological Chemistry.
Martin Edward Hanke, Ph.D., Assistant Professor of Physiological Chemistry.
Ida Kraus-Ragins, Ph.D., Instructor in Physiological Chemistry.
Joseph Adolph Tuta, S.M., Assistant in Physiological Chemistry.
Felix Wadsworth Saunders, S.B., Assistant in Physiological Chemistry.
George Frederick Harsh, A.B., Assistant in Physiological Chemistry.
Oscar Marvin Helmer, S.M., Assistant in Physiological Chemistry.
Kathryn Knowlton, S.M., Assistant in Physiological Chemistry.

FELLOWS, 1926–27

Lemuel Clyde McGee, A.B. (E. R. Squibb Fellow).
Eugene Updyke Still, S.B. (Fleischmann Fellow).

B. OFFICERS OF INSTRUCTION IN PHARMACOLOGY

Arthur Lawrie Tatum, Ph.D., M.D., Associate Professor of Pharmacology.
Harry Benjamin van Dyke, Ph.D., M.D., Assistant Professor of Pharmacology.
Kenneth Heath Collins, S.B., Associate in Pharmacology.
James Conrad Ellis, S.B., Assistant in Pharmacology.
George Cleveland Turner, S.B., M.D., Assistant in Pharmacology.

INTRODUCTORY

Physiological Chemistry, or Biochemistry, has as its field the chemistry of the cells and tissues of plants and animals, the principles of nutrition, the chemistry of the internal secretions, the chemical correlation of the organs of the body, the chemistry of the digestive processes and of the secretions and excretions; the chemical basis of such problems as those of pigmentation, inheritance, fertilization, irritability, and so on. It has to do also with the derangement of chemical processes in disease. The science thus stands in a close and complementary relation with zoölogy, botany, anatomy, pathology, physical physiology, and bacteriology on the one hand and with chemistry on the other.

Pharmacology deals with the chemistry of drugs, the detection of poisons, the nature and mode of action of chemical agents on organisms, and with the alterations of the physiological processes of the body produced by chemical agents of all kinds. It is a kind of bridge between physiology and therapeutics.

Of the courses offered in this Department, 201 and 205 are intended for medical and graduate students. They embrace the chemistry of the cells and tissues, of digestion, and of excretions. They are the minimum requirement for students of medicine in Physiological Chemistry. Medical students who wish to take more advanced work are advised to take courses 301, 303, or 311. Many of the methods learned in these courses are of value in medical research and in clinical work.

Graduate students in Physiological Chemistry or in other departments must take courses 201 and 205 or the equivalent. For more advanced work they are advised to choose from courses 303, 311, 313, 315, 321, 322, and 331, depending on the nature of their field of work. Course 303 is strongly recommended for all graduate students taking Physiological Chemistry as a minor. Courses 311 and 313 give the practical training in methods as applied to blood, urine, and tissue. Course 313 is good training for those who intend to enter government service or commercial laboratories dealing particularly with foods and drugs and their control. Students requiring more special training in Physiological Chemistry should take courses 303, 311, 315, 321, and 322.

In Pharmacology, course 253 covers the principles of the pharmacodynamic action of drugs and is particularly intended for medical students.

The Department is particularly desirous of stimulating research, but only when the student has been properly prepared to do the work well. After the research is under way the student is advised to devote practically all of his time to that study rather than to taking unrelated courses of instruction.

UNDERGRADUATE SEQUENCES

Since Physiological Chemistry involves a thorough training in both chemistry and biology it can only be studied after preparation in these other sciences. For that reason it cannot usually be undertaken before the third college year. The college sequence of studies in this Department may embrace for a principal sequence courses 201 and 205, at least three majors of Chemistry, and the other four majors from the Departments of Physiology, Anatomy, Zoölogy, Botany, Hygiene and Bacteriology, or Physics. For the secondary sequence three or four majors of Chemistry, courses 201 and 205, and a major from any other department of science.

The Department recommends that students taking Physiological Chemistry as a major subject should pursue the following courses in introduction: Physics 101, 102, 111, 112; Chemistry 104, 105, 120, 140, 240; Physiology 102, 103, or Zoölogy 103 or 201; Botany 101 and 102; Geology 101; in addition, modern languages, and one or more courses in Histology and the Comparative Anatomy of Vertebrates, and a course in the Calculus.

THE MASTER'S DEGREE

The requirements for the Master's degree, if all the work is taken in this Department, are: (1) Research, three majors (course 401 or 451); (2) six majors from the graduate or Senior College courses; (3) thesis; (4) take part in the Departmental Seminar. The Senior College and graduate courses that may be counted toward the Master's degree are 201, 205, 253, 301, 303, 311, 321.

THE DEGREE OF DOCTOR OF PHILOSOPHY

In Physiological Chemistry courses 201, 205, and 303, or their equivalent, and three or four majors in special methods and preparations, are required of all candidates for the Doctor's degree. In Physiology, courses 201, 202, and 203 or the equivalent are required. Knowledge of physical and organic chemistry and of the literature and history of physiological chemistry are also required. Main emphasis is laid, however, upon ability to do original and accurate research work. Candidates must take part in the seminars.

For the degree of Doctor of Philosophy in Pharmacology a thorough knowledge of physiology, physiological chemistry, toxicology, as well as of the history and literature of pharmacology and the completion of original research work, is required. Candidates must take part in the seminars.

REQUIREMENT FOR A MINOR IN PHYSIOLOGICAL CHEMISTRY

For students taking a full minor in Physiological Chemistry three majors will be credited for work equivalent to courses 201, 202, and 203 in Physiology, or other courses in General and Comparative Physiology, taken elsewhere; in addition six majors selected from courses 201, 205, 301, 303, 311, 313, 315, 321, 401, 351, and 451 are required. For students taking a partial minor in Physiological Chemistry the equivalent of three majors' work in Physiology or Physiological Chemistry taken elsewhere will be accepted in partial fulfilment of the requirement; in addition three majors selected from courses 201, 205, 301, 303, 311, 313, 315, 321, 401, 351, and 451.

LABORATORY FEE

A laboratory fee of $6.00 per major or double minor is charged for each course involving laboratory work. A deposit of $5.00 per major for breakage is also required of each student taking laboratory work. For courses 202, 205, 253, and 311 a deposit of $10.00 is required. Any balance remaining will be returned to the student.

A. COURSES OF INSTRUCTION IN PHYSIOLOGICAL CHEMISTRY

For explanation of the numbering system, see page 18.

201.[1] Physiological Chemistry.—Chemistry of the carbohydrates, lipins, and proteins and the general chemistry of the cell. Lectures, two a week; recitations, one a week; laboratory, 6 hours a week. Prerequisite: General Chemistry, Qualitative Analysis, Elementary Organic Chemistry and Quantitative Analysis. Mj. Summer, lectures, M., Tu., W., 8:00; laboratory, M., Tu., 2:30–5:30, Dr. Kraus-Ragins and Assistants; Autumn, lectures, M., Tu., W., 10:00; laboratory, sec. *a*, Th. and F., 8:00–11:00, sec. *b*, Th. and F., 1:30–4:30, Assistant Professor Hanke and Assistants; Winter, lectures, M., Tu., W., 1:30; laboratory, sec. *a*, Th. and F., 8:00–11:00, sec. *b*, Th. and F., 1:30–4:30, Professor Koch, Dr. Kraus-Ragins, and Assistants.

205.[1] Physiological Chemistry.—Chemistry of Digestion, metabolism, and excretion. Lectures and recitations, three a week; laboratory, 6 hours a week. Prerequisite: Physiological Chemistry 201. Mj. Summer, lectures, M., Tu., W., 1:30; laboratory, Th. and F., 1:30–4:30, Assistant Professor Hanke and Assistants; Spring, lectures, M., Tu., W., 9:00; laboratory, sec. *a*, Th. and F., 8:00–11:00, sec. *b*, Th. and F., 1:30–4:30, Professor Koch and Assistants.

301. The Application of Physical-Chemical Methods in Medicine and Biology.—An elementary lecture course with demonstrations on the most common physical-chemical methods in use in clinical medicine and experimental biology. Lectures, three a week. Prerequisite: Physiological Chemistry 201 and 205. Course 205 may be taken at the same time as course 301. ½Mj. Spring, Assistant Professor Hanke.

303. Physical-chemical Methods Applied to the Tissue and Liquids of the Body.—Osmotic pressure; hydrogen ion determinations; freezing-points; conductivity: polariscope; etc. Practical work. Prerequisite: Physiological Chemistry 201 and 205, Physical Chemistry and quantitative analysis. Mj. or ½Mj. Summer, Winter, and Spring, Assistant Professor Hanke.

311. Quantitative Methods of Urine and Blood Analysis.—Determination of important constituents of the urine and blood. Prerequisite: Physiological Chemistry 205, or equivalent, and quantitative analysis. ½Mj. or Mj. Summer, Autumn, and Spring, Professor Koch.

313. Methods of Quantitative Analysis in Physiological Chemistry as Applied to Plant and Animal Tissues.—Prerequisite: quantitative analysis and Physiological Chemistry 201. Mj. Summer and Winter, Professor Koch.

[1] Courses 201 and 205 are required of medical students for credit in Physiological Chemistry.

315. Methods of Quantitative Analysis of a Protein.—Prerequisite: quantitative analysis and Physiological Chemistry 201. Mj. Summer, Autumn, and Winter, DR. KRAUS-RAGINS.

321. Biochemical Preparations.—Prerequisite: Physiological Chemistry 201. Mj. Summer, Autumn, and Winter, PROFESSOR KOCH AND ASSISTANT PROFESSOR HANKE.

322. Biochemical Preparations.—Continuation of 321. Mj. Summer, Autumn, and Winter, PROFESSOR KOCH AND ASSISTANT PROFESSOR HANKE.

331. The Biochemistry of Internal Secretions.—A lecture course on the biochemistry of the glands of internal secretions. Three lectures per week. Prerequisite: Physiological Chemistry 201 and 205. ½Mj. Summer, PROFESSOR KOCH.

401. Research in Physiological Chemistry.—Mj. or DMj. each Quarter, PROFESSORS KOCH AND HASTINGS AND ASSISTANT PROFESSOR HANKE.

410. Seminar in the Physiology Group.—A joint seminar in Physiology, Physiological Chemistry, and Pharmacology. Discussion of important books, papers, and research reports. Weekly. No credit. Conducted by the instructors of the Departments.

B. COURSES OF INSTRUCTION IN PHARMACOLOGY

For explanation of the numbering system, see page 18.

251. Introductory Pharmacology.—Open to all students of medicine. An introductory and supplementary course to Pharmacology 253. It consists of the principles of prescription writing, the chemistry of drugs, and the study of such drugs as are not readily adaptable to laboratory demonstration, but are commonly used in medicine. The laboratory work in the course consists essentially in the study of the chemical detection of the more powerful medicinal drugs and poisons. Lectures only, ½Mj. Lectures and laboratory, Mj. Laboratory section limited to 10 students. Autumn and Spring, ASSOCIATE PROFESSOR TATUM.

253. Pharmacology.—This course consists of the physiological analysis or interpretation of the action of the more important drugs. Lectures and recitations, three hours a week; laboratory, 6 hours a week. Prerequisite: Physiology 201, 202, 203, Physiological Chemistry 201 and 205; Pharmacology 251 advised. Mj. Summer, lectures, M., Tu., W., 11:00; laboratory, M., Tu., 1:30–4:30; Winter, lectures, M., Tu., W., 8:00; laboratory, sec. *a*, Th. and F., 8:00–11:00; sec. *b*, Th. and F., 1:30–4:30; Spring, lectures, W., 11:00, Th., F., 1:30; laboratory, M., Tu., 2:30–5:30, ASSOCIATE PROFESSOR TATUM AND ASSISTANTS.

351. Special Problems in Pharmacology.—Laboratory work of advanced character in special problems in pharmacology. Mj. Summer, Autumn, and Spring, ASSOCIATE PROFESSOR TATUM.

451. Research in Pharmacology.—Mj. or DMj. each Quarter, ASSOCIATE PROFESSOR TATUM.

TABULAR VIEW OF COURSES OFFERED BY THE DEPARTMENT OF PHYSIOLOGICAL CHEMISTRY AND PHARMACOLOGY, 1926–27

Hour	Summer, 1926	Autumn, 1926	Winter, 1927	Spring, 1927
8:00	201. Physiological Chemistry Lect.: M., Tu., W. Lab.: M., Tu., 2:30–5:30 (Kraus-Ragins)		201. Physiological Chemistry (Koch) Lab.: sec. *a*, Th., F., 8:00–11:00 253. Pharmacology (Tatum) Lect.: M., Tu., W. Lab.: sec. *a*, Th., F., 8:00–11:00	205. Physiological Chemistry (Koch) Lab.: sec. *a*, Th., F., 8:00–11:00
9:00				205. Physiological Chemistry (Koch) Lect.: M., Tu., W.
10:00		201. Physiological Chemistry (Hanke) Lect.: M., Tu., W., 10:00 Lab.: sec. *a*, Th., F., 8:00–11:00		
11:00	253. Pharmacology (Tatum) Lect.: M., Tu., W.			253. Pharmacology (Tatum) Lect.: W., 11:00; Th., F., 1:30 Lab.: M., Tu., 2:30–5:30
1:30	205. Physiological Chemistry (Hanke) Lect.: M., Tu., W. Lab.: Th., F., 1:30–4:30 253. Pharmacology Lab.: M., Tu., 1:30–4:30	201. Physiological Chemistry Lab.: sec. *b*, Th., F., 1:30–4:30	201. Physiological Chemistry (Koch) Lect.: M., Tu., W. Lab.: sec. *b*, Th., F., 1:30–4:30 253. Pharmacology Lab.: sec. *b*, Th., F., 1:30–4:30	205. Physiological Chemistry Lab.: sec. *b*, Th., F., 1:30–4:30
3:30		251. Pharmacology (Tatum) Lect.: M., Tu., W.		251. Pharmacology (Tatum) Lect.: M., Tu., W.
Hours to be arranged	303. Physical-chemical Methods Applied to the Tissues and Liquids of the Body (Hanke) ½Mj., Mj., or DMj. 311. Quantitative Methods of Urine and Blood Analysis (Koch) ½Mj. or Mj. 313. Methods of Quan. Analysis in P. Chem. as Applied to Plant and Animal Tissues (Koch) 315. Methods of Quantitative Analysis of a Protein (Kraus-Ragins) 321. Biochemical Preparations (Koch) 322. Biochemical Preparations (Koch) 331. Biochemistry of Internal Secretions ½Mj. (Koch) 351. Special Problems in Pharmacology Mj. or DMj. (Tatum) 401. Research in Physiological Chemistry (Koch, Hastings, Hanke) Mj. or DMj. 410. Seminar in the Physiology Group 451. Research in Pharmacology Mj. or DMj. (Tatum)	311. Quantitative Methods of Urine and Blood Analysis (Koch) ½Mj. or Mj. 315. Methods of Quantitative Analysis of a Protein (Kraus-Ragins) 321. Biochemical Preparations (Koch, Hanke) 322. Biochemical Preparations (Koch, Hanke) 351. Special Problems in Pharmacology (Tatum) 401. Research in Physiological Chemistry (Koch, Hastings, Hanke) Mj. or DMj. 410. Seminar in the Physiology Group 451. Research in Pharmacology Mj. or DMj (Tatum)	303. Physical-chemical Methods Applied to the Tissues and Liquids of the Body (Hanke) ½Mj. or Mj. 313. Methods of Quan. Analysis in P. Chem. as Applied to Plant and Animal Tissues (Koch) 315. Methods of Quantitative Analysis of a Protein (Kraus-Ragins) 321. Biochemical Preparations (Koch, Hanke) 322. Biochemical Preparations (Koch, Hanke) 401. Research in Physiological Chemistry (Koch, Hastings, Hanke) Mj. or DMj. 410. Seminar in the Physiology Group 451. Research in Pharmacology Mj. or DMj. (Tatum)	301. Application of Physical-chemical Methods in Medicine and Biology ½Mj. (Hanke) 303. Physical-chemical Methods Applied to the Tissues and Liquids of the Body (Hanke) ½Mj. or Mj. 311. Quantitative Methods of Urine and Blood Analysis (Koch) ½Mj. or Mj. 351. Special Problems in Pharmacology Mj. or DMj. (Tatum) 401. Research in Physiological Chemistry (Koch, Hastings, Hanke) Mj. or DMj. 410. Seminar in the Physiology Group 451. Research in Pharmacology Mj. or DMj. (Tatum)

THE DEPARTMENT OF HYGIENE AND BACTERIOLOGY

OFFICERS OF INSTRUCTION

Edwin Oakes Jordan, Ph.D., Sc.D., Professor of Bacteriology and Chairman of the Department of Hygiene and Bacteriology.
John Foote Norton, Ph.D., Associate Professor of Bacteriology.
William Hay Taliaferro, Ph.D., Associate Professor of Parasitology.
Isidore Sydney Falk, Ph.D., Associate Professor of Bacteriology.
William Ernest Cary, M.D., Ph.D., Research Assistant Professor under the Douglas Smith Foundation.
Sara Elizabeth Branham, Ph.D., Instructor in Bacteriology.
Gail Monroe Dack, S.B., Instructor in Bacteriology.
Frances Coventry, Sc.D., Research Instructor under the Douglas Smith Foundation.
Lloyd B. Jensen, S.M., Instructor in Bacteriology.
Lucy Graves Taliaferro, Sc.D., Research Associate in Parasitology.
Adah Elisabeth Verder, S.B., Assistant in Bacteriology.
Lucille Robey, A.B., Assistant in Bacteriology.

Moses Abraham Jacobson, M.S.A., Extension Instructor in Bacteriology.

Lee Miles Roderick, S.M., Research Bacteriologist in the Thomas E. Wilson Laboratory of the Institute of American Meat-Packers.
John Yesair, S.B., Research Bacteriologist in the Thomas E. Wilson Laboratory of the Institute of American Meat-Packers.

Dudley Billings Reed, M.D., Associate Professor of Physical Culture; Health Officer of the University.

William C. Woodward, M.D., Director, Bureau of Legal Medicine and Legislation, American Medical Association.
Alice Hamilton, M.D., Investigator of Occupational Diseases, U.S. Bureau of Labor Statistics.
Jesse R. Gerstley, M.D.

William Barnard Sharp, M.D., Ph.D., Professor of Bacteriology and Preventive Medicine, School of Medicine, University of Texas (Summer, 1926).
Jacques Jacob Bronfenbrenner, Ph.D., D.P.H., Rockefeller Institute for Medical Research (Summer, 1926).

FELLOWS, 1926–27

Lois Amelia Day, A.B. Irene Jarra, A.B.
Winston Harris Tucker, A.B.
John Austin Moran, S.M. (Lowenstein Fellow)
Thurston Leon Johnson, A.M. (Evaporated Milk Association Fellow)

INTRODUCTORY

UNDERGRADUATE SEQUENCES

I. PRINCIPAL SEQUENCES

The principal sequence consists of nine majors from the courses offered by the Department. The sequence must be arranged in consultation with the Departmental Adviser.

II. SECONDARY SEQUENCE

To students wishing to take a minor in this Department, six majors from the following courses are recommended: 201, General Bacteriology; 202, Pathogenic Bacteria; 201, Public Hygiene; 211, Public Health Problems; 301, Public Health Laboratory Methods; 304, Water and Water Supply; 308, Food Supply; 315, Immunity in Relation to Preventive Medicine; 320, Parasitology.

GRADUATE WORK

A dissertation must be submitted as part of the requirement for the degrees of Doctor of Philosophy and Master of Science. The work on which this dissertation is based may be done in any of the fields represented in the Department, such as Public Health, Bacteriology, Parasitology, or Immunology.

For the Master's degree a dissertation and eight majors of graduate work (including dissertation) are required. The majors must be selected with the approval of the Chairman of the Department.

For the degree of Doctor of Philosophy a dissertation presenting the results of original research is required. This research must be conducted under the direction of the Department. In addition, courses 301, 315, 320, and 330 must be satisfactorily completed, together with such other courses offered by this or related departments as may be determined in consultation with the Chairman of the Department.

The Bacteriology Club and the Journal Club are under the direction of members of the Department. Students in all courses are invited to attend the meetings of these clubs. Students in courses 410 and 420 are expected to attend regularly.

COURSES OF INSTRUCTION

For explanation of the numbering system, see page 18.

101. Personal Hygiene.—The elements of normal growth, functions, toleration limits, physical diagnosis, prodromes of disease conditions, and the essentials of personal health maintenance and of corrective therapeutics. For non-medical students. Lectures and demonstrations. M. Summer, First Term, M., Tu., W., Th., 8:00, PROFESSOR SHARP.

201. General Bacteriology.—Lectures on the fundamental facts of bacteriology, including brief discussions of the industrial and hygienic applications of bacteriology. Yeasts and molds and several groups of bacteria are studied in the laboratory. Designed for general scientific students. Prerequisite: Chemistry 101, 102, and 103 (or 104 and 105), and Zoölogy 103 or equivalent. Laboratory fee, $6.00. Mj. Summer, M.–F., 1:30–3:30, MR. JENSEN; Autumn, M.–F., 8:00–10:00; Spring, M.–F., 10:00–12:00, ASSOCIATE PROFESSOR FALK.

202. The Pathogenic Bacteria.—To be taken in sequence to 201 (see description of 203). Medical credit will be given for 201 and 202 or for 203. Laboratory fee, $6.00. Mj. Winter, M.–F., 10:00–12:00, DR. BRANHAM.

203. The Pathogenic Bacteria.—Lectures deal with the morphology and biology of bacteria in general and with infection, immunity, and the specific infectious diseases. In the laboratory, students make up bacteriologic media, study some of the more important groups of non-pathogenic and pathogenic bacteria, keep daily records of the biologic changes in cultures under observation, examine water, sewage, milk, pus, saliva, etc., conduct post-mortems on infected animals, and isolate and identify bacteria in mixtures. Those who are not students of medicine will be admitted to this course only by permission of the instructor. Prerequisite: Physiological Chemistry 201. Laboratory fee, $9.00. Sections limited to 30. 1½Mjs. Summer, lectures, M., Tu., W., 9:00; laboratory, M., Tu., W., 10:00–12:00, Th., F., 11:00–1:00, Dr. Bronfenbrenner; Autumn, lectures, M., Tu., W., 1:30; laboratory, sec. *a*, M., Tu., W., 10:00–12:00, Th., F., 11:00–1:00; sec. *b*, M.–F., 2:30–4:30, Associate Professor Norton and Mr. Dack; Spring, lectures, M., Tu., W., 1:30; laboratory, M., Tu., W., 10:00–12:00, Th., F., 11:00–1:00, Associate Professor Norton and Mr. Dack.

210. Public Hygiene.—The applications of bacteriology to municipal hygiene, water supply, food supply, etc. Mj. Summer, Tu., W., Th., F., 9:00, First Term, Professor Jordan and Associate Professor Falk; Second Term, Associate Professor Norton; Autumn, M., Tu., W., Th., 10:00, Professor Jordan and Associate Professor Falk.

211. Public Health Problems.—A lecture course dealing with the infant welfare problem, tuberculosis, and the antituberculosis campaign, venereal diseases and the health of industrial workers. Prerequisite: Bacteriology 202 or 203 or 210. Mj. Spring, M., Tu., W., Th., 8:00, Associate Professor Norton, Drs. Woodward, Hamilton, and Gerstley.

212. School Hygiene.—This course considers the more important problems relating to the individual school child and his environment. It includes discussions of posture, neuro-muscular co-ordinations, physical defects, and some phases of personal hygiene. The heating, lighting, ventilation of schoolhouses, and other facts of the common school life are also taken up. Consideration is given to the questions of school programs, school recreations, communicable diseases, and first aid. Admission to this course is limited to College of Education students and to students taking major or minor sequences in Bacteriology. M. Summer, First Term, M.–Th., 3:30, Professor Sharp.

301. Public Health Laboratory Methods.—Diagnosis of diphtheria, typhoid fever, and rabies; Wasserman test, etc. Prerequisite: Bacteriology 202 or 203. Laboratory fee, $6.00. Limited to 25. Mj. Autumn and Spring, M.–F., 1:30–3:30, Dr. Branham.

304. Water and Water Supply.—Sources of supply and methods of purification. Chemical, bacterial, and microscopal methods. Lectures and laboratory work. Prerequisite: Chemistry 240 (or 241); Bacteriology 201 or 203. Laboratory fee, $6.00. Mj. [Not given in 1926–27.]

308. Food Supply.—Lectures and conferences on the bacteriology of foods, including milk, butter, eggs, canned foods, etc.; on food preservation; and particularly on the hygienic aspects of food. Laboratory work includes practical examinations and studies of food micro-organisms. Prerequisite: Bacteriology 201 or 203, Chemistry 240 (or 241). Laboratory fee, $6.00. Mj. Spring, M., F., 10:00–12:00, Mr. Jensen.

310. Intestinal Bacteriology.—A conference and demonstration course dealing with the problems of intestinal hygiene. This includes the bacteriology of normal intestines and of intestinal diseases, the effect of diet on the intestinal flora, auto-intoxication, Bulgarian milk therapy, etc. To be taken with course 330. Prerequisite: Bacteriology 202 or 203. ½Mj. [Not given in 1926–27.]

315. Immunity in Relation to Preventive Medicine.—Historical and current views on the nature and mechanisms of immunity; methods of artificially producing immunity; the use of antitoxic and other sera in the treatment of disease; the use of antibodies in the diagnosis of diseased conditions. Prerequisite: Bacteriology 301. Laboratory fee, $6.00. Mj. Summer and Winter, M.–F., 10:00–12:00, Associate Professor Falk.

320. Parasitology.—Designed to give a general survey of our knowledge of the parasites of man. It consists of three approximately equal parts dealing with (1) insects of medical importance, (2) helminthology, and (3) protozoölogy. Particular

stress is laid upon the diagnostic and public-health aspects of those diseases which are caused by animal parasites or are carried by insects. Prerequisite: Consent of the Department and Zoölogy 103. Class is limited to 10. Laboratory fee, $6.00. Mj. Summer and Winter, M.–F., 1:30-3:30, ASSOCIATE PROFESSOR TALIAFERRO.

330. Vital Statistics and Epidemiology.—Prerequisite: Bacteriology 202 or 203 and 210. Mj. [Not given in 1926–27.]

370. Advanced Bacteriology, Parasitology, and Immunology.—Open to a limited number of specially prepared students and to graduates in medicine. Prerequisite: Bacteriology 202 or 203 and 301; Chemistry 240 or 241. Laboratory fee, $6.00. Mj. each Quarter, PROFESSOR JORDAN, ASSOCIATE PROFESSORS NORTON, TALIAFERRO, AND FALK.

401. Sanitary Surveys.—A limited number of advanced students may register with the Head of the Department for the Sanitary Survey of some selected city or town, the work to cover a detailed study of vital statistics, water supply, milk supply, food supply, health administration, and other factors. Registration for this course after consultation only. Mj. each Quarter. By special permission may be taken out of residence. PROFESSOR JORDAN.

420. Research Problems.—Laboratory fee, $6.00 per Mj. Mj. or DMj. each Quarter, PROFESSOR JORDAN, ASSOCIATE PROFESSORS NORTON, TALIAFERRO, AND FALK.

TABULAR VIEW OF COURSES OFFERED BY THE DEPARTMENT OF HYGIENE AND BACTERIOLOGY, 1926–27

Hour	Summer, 1926	Autumn, 1926	Winter, 1927	Spring, 1927
8:00	101. Personal Hygiene (Sharp) Lect.: M., Tu., W., Th.	201. General Bacteriology (Falk) Lect.: M., Tu. Lab.: W., Th., F., 8:00–10:00		211. Public Health Problems (Norton, Gerstley, Woodward, Hamilton) M., Tu., W., Th.
9:00	203. Pathogenic Bacteria 1½Mjs. (Bronfenbrenner) Lect.: M., Tu., W. 210. Public Hygiene (Jordan, Norton) Lect.: Tu., W., Th., F.			
10:00	203. Pathogenic Bacteria 1½Mjs. (Bronfenbrenner) Lab.: M., Tu., W., 10:00–12:00 Th., F., 11:00–1:00 315. Immunity in Relation to Preventive Medicine (Falk) M.–F., 10:00–12:00	210. Public Hygiene (Jordan, Falk) Lect.: M., Tu., W., Th. 203*a*. Pathogenic Bacteriology See 1:30	202. Pathogenic Bacteria (Branham) Lect.: M., Tu., 10:00 Lab.: W., Th., F., 10:00–12:00 315. Immunity in Relation to Preventive Medicine (Falk) M.–F., 10:00–12:00	201. General Bacteriology (Falk) Lect.: M., Tu., 10:00 Lab.: W., Th., F., 10:00–12:00 203. Pathogenic Bacteria 1½Mjs. (Norton, Dack) Lab.: M., Tu., W., 10:00–12:00; Th., F., 11:00–1:00 308. Food Supply (Jensen) M.–F., 10:00–12:00
11:00				
1:30	201. General Bacteriology (Jensen) Lect.: M., Tu. Lab.: W., Th., F., 1:30–3:30 320. Parasitology (Taliaferro) M.–F., 1:30–3:30	203. Pathogenic Bacteria 1½Mjs. (Norton, Dack) Lect.: M., Tu., W. Lab.: Sec. *a*, M., Tu., W., 10:00–12:00; Th., F., 11:00–1:00 Sec. *b*, M.–F., 2:30–4:30 301. Public Health Laboratory Methods (Branham) M.–F., 1:30–3:30	320. Parasitology (Taliaferro) 1:30–3:30	203. Pathogenic Bacteria 1½Mjs. (Norton, Dack) Lect.: M., Tu., W., 1:30 301. Public Health Laboratory Methods (Branham) 1:30–3:30
Hours to be arranged	370. Advanced Bacteriology, Parasitology, and Immunology (Jordan, Norton, Taliaferro, Falk) 401. Sanitary Surveys (Jordan) 420. Research Problems Mj. or DMj. (Jordan, Norton, Taliaferro, Falk)	370. Advanced Bacteriology, Parasitology, and Immunology (Jordan, Norton, Taliaferro, Falk) 401. Sanitary Surveys (Jordan) 420. Research Problems Mj. or DMj. (Jordan, Norton, Taliaferro, Falk)	370. Advanced Bacteriology, Parasitology, and Immunology (Jordan, Norton, Taliaferro, Falk) 401. Sanitary Surveys (Jordan) 420. Research Problems Mj. or DMj. (Jordan, Norton, Taliaferro, Falk)	370. Advanced Bacteriology, Parasitology, and Immunology (Jordan, Norton, Falk) 401. Sanitary Surveys (Jordan) 420. Research Problems Mj. or DMj. (Jordan, Norton, Falk)

THE DEPARTMENT OF PATHOLOGY

OFFICERS OF INSTRUCTION

Ludvig Hektoen, M.D., Sc.D., LL.D., Professor and Head of the Department of Pathology; Director of the John McCormick Institute for Infectious Diseases.

Harry Gideon Wells, A.M., Ph.D., M.D., Professor and Chairman of the Department of Pathology; Director of the Otho S. A. Sprague Memorial Institute.

Esmond Ray Long, Ph.D., Associate Professor of Pathology.

Paul Roberts Cannon, Ph.D., Assistant Professor of Pathology.

Mercy Aurora Southwick, M.D., Curator and Instructor in Pathological Technic.

Parke Harold Woodard, A.B., Assistant in Pathology.

Eleanor Mary Humphreys, A.B., Assistant in Pathology.

MEMBERS OF THE OTHO S. A. SPRAGUE MEMORIAL INSTITUTE STAFF

Lydia M. DeWitt, A.M., M.D., Associate Professor Emeritus of Pathology.

Karl Konrad Koessler, M.D., Ph.D., Associate Professor of Experimental Medicine.

Maud Slye, A.B., Assistant Professor of Pathology.

Julian Herman Lewis, A.M., Ph.D., M.D., Assistant Professor of Pathology.

Milton Theodore Hanke, Ph.D., Assistant Professor of Pathology.

Tell Nelson, S.B., M.D., Instructor in Pathology.

Mary S. Sheppard, S.M., Instructor in Pathology.

Florence Barbara Seibert, Ph.D., Instructor in Pathology.

Rosemary Loughlin, A.B., S.M., Instructor in Pathology.

Siegfried Maurer, S.B., M.D., Instructor in Pathology.

Edith Farrar, A.B., Assistant in Pathology.

Eleanor K. Chambers, A.M., Assistant in Pathology.

INTRODUCTORY

The courses offered in the University by the Department include the required work in Pathology in the curriculum of the first two years in the study of Medicine, as well as advanced courses arranged for those desiring a more extended knowledge of the subject, and for those wishing to qualify themselves for research.

For each major or double-minor course requiring laboratory work the laboratory fee is $6.00.

THE MASTER'S DEGREE

For the Master's degree a dissertation and eight majors of graduate or Senior College work in Pathology are required, if all the work is in Pathology. Substitution of courses in Bacteriology and Immunity may be made with the approval of the Head of the Department, but courses 201, 202, 301, and at least 3 majors of Research must be taken in Pathology.

THE DEGREE OF DOCTOR OF PHILOSOPHY

Courses required of all candidates are Pathology 201, 202, and at least 3 majors in course 301; also Bacteriology 202, and a course covering the fundamental principles and methods of Immunology. Courses in Hygiene and Bacteriology may be accepted as equivalent to courses in Pathology to a maximum of 5 majors with the approval of

the Head of the Department. A dissertation must be presented representing the results of original research under the direction of an officer of the Department, but so conducted as to indicate the ability of the candidate to conduct independent original investigation.

Students wishing to take a minor in Pathology will meet the same requirements as for the Master's degree, except that a dissertation is not required.

COURSES OF INSTRUCTION

For explanation of the numbering system, see page 18.

201. General Pathology and Pathological Histology.—A practical laboratory course in general pathologic histology, supplemented by the study of fresh and museum specimens, and by recitations in general pathology. Prerequisite: Histology, Bacteriology, Physiology, Physiological Chemistry, and Visceral Anatomy. Laboratory, recitations, and lectures; 9 hours a week. Laboratory fee, $6.00. DM. Summer, First Term; Mj. Autumn, Winter, PROFESSOR WELLS, ASSOCIATE PROFESSOR LONG, ASSISTANT PROFESSOR CANNON, AND ASSISTANTS.

202. Pathology of Infectious Granulomas and Tumors.—Laboratory fee, $6.00. DM. Summer, Second Term; Mj. Winter, Spring, PROFESSOR WELLS, ASSOCIATE PROFESSOR LONG, ASSISTANT PROFESSOR CANNON, AND ASSISTANTS.

301. Advanced Pathology.—Open to a limited number of students who have credit in general pathology. Laboratory work will be given in pathological technique, the study and recording of autopsies, and special pathological material. Laboratory fee, $6.00. Hours to be arranged for each student. Mj. each Quarter, PROFESSOR WELLS.

302. Special Pathology.—Supplementary to and paralleling course 202. A study of the pathological changes affecting different organs and tissues. Laboratory fee, $6.00. Mj. Spring, PROFESSOR WELLS, ASSOCIATE PROFESSOR LONG, AND ASSISTANTS.

401. Research in Pathology.—Open to a limited number of qualified students and graduates in medicine. Laboratory fee, $6.00 per Mj. Hours to be arranged for each student. Mj. or DMj. each Quarter, PROFESSORS HEKTOEN AND WELLS, AND ASSOCIATE PROFESSOR LONG.

TABULAR VIEW OF COURSES OFFERED BY THE DEPARTMENT OF PATHOLOGY, 1926–27

Hour	Summer, 1926	Autumn, 1926	Winter, 1927	Spring, 1927
8:00	201. General Pathology and Pathological Histology (Wells, Long) DM. 1st T. 8:00–11:00 202. Pathology of Infectious Granulomas and Tumors DM. 2d T. (Wells, Long) 8:00–11:00			202. Pathology of Infectious Granulomas and Tumors (Wells, Long, Cannon) Lect.: M., W., F., 8:00 Lab.: Tu., Th., Sat., 8:00–10:00
10:00			202. Pathology of Infectious Granulomas and Tumors (Wells, Long, Cannon) Lect.: M., Tu., 1:30; Th., 12:00 Lab.: M., Tu., W., 10:00–12:00	302. Special Pathology (Wells, Long) Lect.: Tu., Th., Sat., 10:00 Lab.: M., W., F., 9:00–11:00
1:30		201. General Pathology and Pathological Histology (Wells, Cannon) Lect.: M., Tu., 1:30; Sat., 8:00 Lab.: M., Tu., 2:30–4:30; Sat., 9:00–11:00	201. General Pathology and Pathological Histology (Wells, Long, Cannon) Lect.: M., Tu., 1:30; Sat., 8:00 Lab.: M., Tu., 2:30–4:30; Sat., 9:00–11:00	
Hours to be arranged	301. Advanced Pathology (Wells) W., 1:30–4:00 401. Research in Pathology Mj. or DMj. (Hektoen, Wells, Long)	301. Advanced Pathology (Wells) 401. Research in Pathology Mj. or DMj (Hektoen, Wells)	301. Advanced Pathology (Wells) W., 1:30–4:00 401. Research in Pathology Mj. or DMj. (Hektoen, Wells, Long)	301. Advanced Pathology (Wells) W., 1:30–4:00 401. Research in Pathology M. or DMj. (Hektoen, Wells, Long)

THE DEPARTMENT OF PATHOLOGY

RUSH MEDICAL COLLEGE

OFFICERS OF INSTRUCTION

Ludvig Hektoen, M.D., Sc.D., LL.D., Professor of Pathology.

Edwin Raymond LeCount, M.D., Professor and Chairman of the Department of Pathology.

George Howitt Weaver, M.D., Professor of Pathology.

Edwin Frederick Hirsch, Ph.D., M.D., Assistant Clinical Professor of Pathology.

Ernst Pribram, M.D., Assistant Professor of Pathology.

Carl Wesley Apfelbach, M.D., Clinical Instructor in Pathology; Resident Pathologist, Presbyterian Hospital.

George J. Rukstinat, M.D., Clinical Assistant in Pathology.

Celestin B. Semerak, M.D., Fellow in Pathology.

COURSES OF INSTRUCTION

12. Special Pathologic Anatomy and Histology.—Limited to thirty-six students. Practical instruction is given in the methods of making post-mortem examinations and of recording the results. The student studies and describes the gross and microscopic appearance of diseased organs and tissue. Bacteriologic and chemical methods and experiments are employed whenever indicated and the clinical relations (pathologic physiology) of the morbid conditions are emphasized. *Prerequisite: courses Pathology 1 and 2,* and at least one quarter of clinical work. Daily 2:00–4:00, and autopsies. 144 hours. 1.2Mjs. Summer, Autumn, Winter, and Spring, Professor LeCount and Assistants.

12A. A Continuation of Course 12 for Students Taking Additional Work Along the Same Lines.—Hours to be arranged; two hours daily. 144 hours. 1.2Mj. Autumn, Winter, and Spring, Professor LeCount and Assistants.

13. The Histology and Diagnosis of Tumors.—Prerequisite: courses Pathology 201 and 202. 8:00–10:00. 72 hours. Mj. Autumn, Professor LeCount.

14. Infection and Immunity.—A lecture course. Autumn, Second Term; Wed., Sat., 8:00. 12 hours. .2Mj. Professor Hektoen and Assistants.

17. Advanced Laboratory Work and Research in Pathology.—Open to a limited number of specially qualified students and graduates in medicine. Hours arranged for each student. Credit given based on time and quality of work. Throughout the year. Professors Hektoen and LeCount.

18. Pathology Conferences at Rush Medical College or Presbyterian Hospital.—S. 11:00–1:00 at **Cook County Hospital,** Th., 11:00–1:00. Throughout the year. Open to all students. No credit.

THE DEPARTMENT OF MEDICINE

RUSH MEDICAL COLLEGE

OFFICERS OF INSTRUCTION

James Bryan Herrick, A.M., M.D., Clinical Professor and Chairman of the Department of Medicine.

Frank Billings, Sc.D., M.D., Professor Emeritus of Medicine.

John Milton Dodson, A.M., M.D., Professor Emeritus of Medicine.

Joseph Leggett Miller, M.D., Clinical Professor of Medicine.

Samuel Robert Slaymaker, M.D., Clinical Professor of Medicine.

Joseph Almarin Capps, A.M., M.D., Clinical Professor of Medicine.

Theodore Tieken, Ph.B., M.D. (Ingals),[1] Clinical Professor of Medicine.

Wilber E. Post, M.D., Clinical Professor of Medicine.

Ernest Edward Irons, M.D., Ph.D., Clinical Professor of Medicine.

Rollin Turner Woodyatt, M.D., Clinical Professor of Medicine.

Ralph Crissman Brown, M.D., Clinical Professor of Medicine.

Ralph Waldo Webster, M.D., Ph.D. (Medical Jurisprudence), Clinical Professor of Medicine.

George Frederick Dick, M.D., Clinical Professor of Medicine.

Bird McPherson Linnell, A.B., M.D., Associate Clinical Professor of Medicine.

Bernard Fantus, S.M., M.D. (Therapeutics), Associate Clinical Professor of Medicine.

Karl Konrad Koessler, M.D., Ph.D., Associate Clinical Professor of Medicine.

Donald Putnam Abbott, M.D., Associate Clinical Professor of Medicine.

James Murray Washburn, A.B., M.D., Assistant Clinical Professor of Medicine.

Ludwig Mannheimer Loeb, M.D., Assistant Clinical Professor of Medicine.

Alexander Francis Stevenson, M.D., Assistant Clinical Professor of Medicine.

John Ritter, M.D., Assistant Clinical Professor of Medicine.

Leon Bloch, M.D., Assistant Clinical Professor of Medicine.

Ellis Kirk Kerr, M.D., Assistant Clinical Professor of Medicine.

John L. Jacques, M.D., Assistant Clinical Professor of Medicine.

Arthur Byfield, M.D., Assistant Clinical Professor of Medicine.

James Richard Greer, M.D., Ph.D., Assistant Clinical Professor of Medicine.

Homer King Nicoll, M.D., Assistant Clinical Professor of Medicine.

George Howell Coleman, M.D., Assistant Clinical Professor of Medicine.

William Duncan McNally, A.B., M.D. (Materia Medica), Assistant Clinical Professor of Medicine.

Lee Connel Gatewood, A.M., M.D., Assistant Clinical Professor of Medicine.

Walter Wile Hamburger, S.M., M.D., Assistant Clinical Professor of Medicine.

Junius C. Gregory, M.D., Lieut. Col. U.S.A., Assistant Clinical Professor of Military Medicine.

Morris Fishbein, M.D., Assistant Clinical Professor of Medicine.

Clarence James McMullen, M.D., Assistant Clinical Professor of Medicine.

[1] The *Ingals* Professorship of Therapeutics was founded in 1898 by the late Dr. Ephraim Ingals, by a gift to Rush Medical College of $25,000 for the promotion of higher education and the advancement of medical science. Dr. Ingals was professor of materia medica and medical jurisprudence in Rush Medical College from 1859 to 1871, and was a member of the Board of Trustees and treasurer of the College for many years.

William Joseph Quigley, M.D., Assistant Clinical Professor of Medicine.
Harry Eugene Kelly, A.M., Lecturer on Medicine (Medical Jurisprudence).
John Hancock McClellan, M.D., Ph.D., Clinical Instructor in Medicine.
Harry G. Hardt, M.D., Clinical Instructor in Medicine.
Asher F. Sippy, M.D., Clinical Instructor in Medicine.
Clarence L. Wheaton, M.D., Clinical Instructor in Medicine.
Frederick Olaf Fredrickson, M.D., Clinical Instructor in Medicine.
Frank Amos Chapman, M.D., Clinical Instructor in Medicine.
Yale Norman Levinson, M.D., Clinical Instructor in Medicine.
Leland Charles Shafer, M.D., Clinical Instructor in Medicine.
Abraham B. Rimmerman, M.D., Clinical Instructor in Medicine.
John Dayhuff Ellis, M.D., Clinical Instructor in Medicine.
William Alexander Thomas, M.D., Clinical Instructor in Medicine.
Frederic William Burcky, M.D., Clinical Instructor in Medicine.
Marie G. Ortmayer, M.D., Clinical Instructor in Medicine.
Carl O. Rinder, M.D., Clinical Instructor in Medicine.
Francis Leo Foran, S.M., M.D., Clinical Instructor in Medicine.
Kamil Schulhof, M.D., Clinical Instructor in Medicine.
Ralph W. Trimmer, M.D., Clinical Instructor in Medicine.
Mabel Marie Matthies, M.D., Clinical Instructor in Medicine.
Stephen Pantelis Anthony, M.D., Clinical Instructor in Medicine.
Harry J. Isaacs, M.D., Clinical Instructor in Medicine.
George Oliver Solem, M.D., Clinical Instructor in Medicine.
Emil George Vrtiak, M.D., Clinical Instructor in Medicine.
Grant Harrison Laing, M.D., Clinical Instructor in Medicine.
LeRoy Hendrick Sloan, M.D., Clinical Instructor in Medicine.
Frank Brazil Kelly, M.D., Clinical Instructor in Medicine.
Howard Martin Sheaff, Ph.D., M.D., Clinical Instructor in Medicine.
Edward Julius Stieglitz, S.M., M.D., Clinical Instructor in Medicine.
Harry Lee Huber, Ph.D., M.D., Clinical Instructor in Medicine.
Sidney Alexander Portis, M.D., Clinical Instructor in Medicine.
Nicholas I. Fox, M.D., Clinical Associate in Medicine.
Ethel Mildred Davis, M.D., Clinical Associate in Medicine.
Charles Otto Carlstrom, G.D., Clinical Associate in Medicine (Kinesitherapy).
William Balmer Knox, M.D., Clinical Associate in Medicine.
Russell C. Johnson, M.D., Clinical Associate in Medicine.
Eugene Fagan Trant, M.D., Clinical Associate in Medicine.
William George Hibbs, M.D., Clinical Associate in Medicine.
Charles Melville Bacon, M.D., Clinical Associate in Medicine.
Marion Ousley Cole, M.D., Clinical Associate in Medicine.
Margaret Howard Austin, M.D., Clinical Associate in Medicine.
Emmet Blackburn Bay, M.D., Clinical Associate in Medicine.
Faris Franklin Chesley, M.D., Clinical Associate in Medicine.
Arthur Ralph Colwell, M.D., Clinical Associate in Medicine.
James Bryan Eyerly, M.D., Clinical Associate in Medicine.
James Lisle Williams, A.M., M.D., Clinical Associate in Medicine.
Maude Hall Winnett, M.D., Clinical Associate in Medicine.
Garland Ward Ellis, M.D., Clinical Associate in Medicine.
Harry Albert Singer, M.D., Clinical Associate in Medicine.

Will Ferson Lyon, M.D., Clinical Associate in Medicine.
Joseph Allegretti, M.D., Clinical Associate in Medicine.
Thomas Gervase Walsh, M.D., Clinical Associate in Medicine.
Leo Clifford Clowes, M.D., Clinical Associate in Medicine.
Evans Williams Pernokis, M.D., Clinical Associate in Medicine.
Earl Alfred Zaus, M.D., Clinical Associate in Medicine.
Malcomb A. Kemper, M.D., Clinical Associate in Medicine.
Jay McKinley Garner, M.D., Clinical Assistant in Medicine.
John Jacob Hesser, M.D., Clinical Assistant in Medicine.
Arthur Sophus Juul Peterson, M.D., Clinical Assistant in Medicine.
Richard B. Evans, M.D., Clinical Assistant in Medicine.
George E. Miller, Ph.D., Clinical Assistant in Medicine (Materia Medica and Toxicology.)
Wayne S. Brandstadt, M.D., Clinical Assistant in Medicine.
Ralph Lee Harris, M.D., Clinical Assistant in Medicine.
Ross Stanley Lang, M.D., Clinical Assistant in Medicine.
Meyer R. Lichtenstein, M.D., Clinical Assistant in Medicine.
Morton G. Marks, M.D., Clinical Assistant in Medicine.
Abraham M. Serby, M.D., Clinical Assistant in Medicine.
Maurice Simkin, M.D., Clinical Assistant in Medicine.
William Simkin, M.D., Clinical Assistant in Medicine.
Idel Treiger, M.D., Clinical Assistant in Medicine.
Howard Wakefield, M.D., Clinical Assistant in Medicine.

INTRODUCTORY

In this department instruction is given in the topics usually comprised under the terms Internal Medicine, Neurology, Materia Medica, Therapeutics, Toxicology, and Medical Jurisprudence. Each student is required to complete 7 majors in the Department of Medicine of which at least .8 major must be in Nervous and Mental Diseases and 2 majors in Materia Medica, Therapeutics, and Toxicology. The courses specifically required are, in Medicine proper, 0, 2, 5, 6, 50, and 61; in Nervous and Mental Diseases, courses 22 or 22A, and either 3D or 21. .3Mj. of course 6 is credited to Nervous and Mental Diseases.

In addition to courses in Therapeutics dealing with the use of drugs in the treatment of disease, the student is given practical instruction in Therapeutics during his clinical clerkship in the Presbyterian Hospital where he follows the course of the patient and observes the results of treatment.

Courses in clinical medicine dealing specifically with Therapeutics (for example, 23) or in part with Therapeutics (course 50, .6Mj. credit) may be applied on the required credit in Materia Medica and Therapeutics.

COURSES OF INSTRUCTION

INTERNAL MEDICINE

JUNIOR YEAR

0. Practice of Medicine.—A conference and recitation course on the essentials of the practice of medicine designed to afford a general survey of the more important diseases and conditions in preparation for the clinical courses. Limited to 30 students n each section. 36 hours. M., W., F., 8:00. .6Mj. Autumn and Spring, Assistant

Clinical Professors Stevenson, Drs. Rinder, Chapman, Trimmer, Burcky, Solem, Sloan, and Levinson.

0A. Practice of Medicine.—A continuation of course 0. M., W., F., 8:00, Winter and Summer.

2. Physical Examination.—A conference and practical course on the methods of physical exploration, chiefly of the normal body. Tu., Th., 8:00. 24 hours. .2Mj. Autumn and Spring, Assistant Clinical Professor Coleman and Others.

5. Laboratory Diagnosis.—A laboratory course in the chemical, microscopic, and bacteriologic examination of blood, urine, sputum, gastric contents, feces, secretions, exudates, etc., and their pathologic and clinical significance, especial attention being given to the acquisition of an accurate technique. Each class limited to 36 students. Autumn and Spring, each Term: sec. *a*, M., W., Th., sec. *b*, Tu., F., Sat., 9:00–11:00. 36 hours. .3Mj. Assistant Clinical Professor Nicoll, Drs. Thomas, Matthies, and Others.

6. A Clinical Course.—In the Central Free Dispensary each Quarter. In the departments of Internal Medicine, and of Nervous and Mental Diseases, conducted by members of the Department. Prerequisite: Physical and Laboratory Diagnosis. In sections, one quarter for each section. Daily, 9:00–11:00. 144 hours. 1.2Mjs., .3Mj. of which is in Nervous and Mental Diseases.

SENIOR YEAR

3A. Clinic and Conference Course at the Cook County Hospital.—Topics: Summer: Cardio-Renal Diseases; Autumn: Gastro-intestinal Diseases; Winter: Heart Diseases; Spring: Infectious Diseases. Limited to 10 students. W., S., 11:00–1:00. 48 hours. .4Mj. Dr. Portis.

3B. Clinic and Conference Course at the Cook County Hospital.—Topics: Autumn: Respiratory Diseases; Spring: Cardio-vascular and renal diseases. Limited to 10 students. Tu., F., 2:00–4:00. 48 hours. .4Mj. Assistant Clinical Professor Quigley.

3E. Clinic and Conference Course at the Cook County Hospital.—Topics: Winter: Heart and Respiratory Diseases; Spring: Diseases of the Alimentary Tract and Liver. Limited to 10 students. M., Th., 9:00–11:00. 48 hours. .4Mj. Assistant Clinical Professor L. C. Gatewood.

3F. Clinic and Conference Course at the Cook County Hospital.—Topics: Autumn: Heart Diseases; Spring: Respiratory Diseases. Limited to 10 students. Tu., F., 9:00–11:00. 48 hours. .4Mj. Assistant Clinical Professor McMullen.

3H. Clinic and Conference Course at the Cook County Hospital.—Topics: Autumn: Infectious Diseases; Spring: Diseases of Blood and Ductless Glands. Limited to 10 students. Tu., F., 2:00–4:00. 48 hours. .4Mj. Assistant Clinical Professor Byfield.

3J. Clinic and Conference Course at the Cook County Hospital.—Topics: Autumn and Spring: Cardio-vascular and Renal Diseases. Limited to 10 students. Tu., F., 11:00–1:00. 48 hours. 14 Mj. Assistant Clinical Professor Kerr. (Not to be given 1926–27.)

3K. Clinic and Conference Course at the Cook County Hospital.—Topics: Winter: Differential Diagnosis of Internal Diseases. Limited to 10 students. Tu., F., 2:00–4:00. 48 hours. .4Mj. Associate Clinical Professor Koessler.

3R. Clinic and Conference Course at the Cook County Hospital.—Topic: Autumn, Winter, Spring, and Summer: Respiratory Diseases with Special Reference to Tuberculosis. W., S., 9:00–11:00. Limited to 10 students. 48 hours. .4Mj. Dr. Isaacs.

3W. Clinic and Conference Course at the Michael Reese Dispensary, Corner Maxwell and Morgan Streets.—Topic: Diseases of the Gastro-intestinal tract. Limited to 6 students. Tu., F., 11:00–1:00. 48 hours. .4Mj. Each Quarter. Assistant Clinical Professor Bloch.

6B. Clinical Course at the Central Free Dispensary.—Topic: Diabetes. Limited to 2 students. Prerequisite: Course 6. Each Quarter, Th., 9:00–11:00. .2Mj. Clinical Professor Woodyatt and Dr. Traut.

6C. Clinical Course at the Central Free Dispensary.—Topic: Diseases of the Heart and Blood Vessels. Limited to 4 students. Prerequisites: same as for 6B. Each Quarter. .4Mj. M., Th., 9:00–11:00. Clinical Professor Slaymaker, Drs. Anthony and Gethner. Tu., F., Drs. Burcky, Chesley, and Hesser; W., and S., Drs. Laing, Austin, and Zaus.

6D. Clinical Course at the Central Free Dispensary.—Topic: Diseases of the Alimentary Tract. Limited to four students in each section. Prerequisites: same as for 6B. Each Quarter, section *a*, M., Th., 9:00–11:00. .4Mj. Clinical Professor Abbott and Dr. Frederickson; section *b*, Tu., F., 9:00–11:00, Assistant Clinical Professor L. C. Gatewood and Dr. Trimmer; section *c*, W., S., 9:00–11:00, Dr. Marie Ortmayer.

6E. Clinical Course at the Central Free Dispensary.—Topic: Diseases of the Kidney. Limited to four students. Prerequisite: same as for 6B. Each Quarter, W., S., 9:00–11:00. .4Mj. Dr. Stieglitz.

6F. Clinical Course at the Central Free Dispensary.—Topic: "Respiratory Conditions." Special emphasis on Asthma and allergic phenomena. Limited to 2 students in sections. Prerequisite same as for course 6B. Each Quarter, Section *b*, Tu. and Fri., 9:00–11:00. .4Mj. Dr. Foran; section *c*, Wed. and Sat., 9:00–11:00, Dr. Huber.

JUNIOR OR SENIOR YEAR

9. Clinical Medicine.—A clinic and conference course in Medicine, M., Th., 9:00–11:00. 48 hours. .4Mj.

Summer: General Medicine with special reference to Diseases of the Alimentary Tract. Associate Clinical Professor Abbott.

Autumn: General Medicine with special reference to Diagnosis and Therapeutics. Clinical Professor Post and Associates.

Winter: General Medicine with special reference to Metabolic Aspects of Disease. Clinical Professor Woodyatt.

Spring: General Medicine with special reference to Cardio-Vascular and Renal Diseases. Clinical Professor Post.

11. Clinical Medicine.—A clinical and conference course in medicine. Tu., F., 9:00–11:00. Each course 48 hours. .4Mj.

Summer: General Medicine with special reference to Diseases of the Blood, Ductless Glands, and Metabolism. Assistant Clinical Professor Greer and Dr. Rinder.

Autumn: General medicine with special reference to Diseases of the Heart and Blood Vessels. Clinical Professors Herrick and Slaymaker.

Winter: General Medicine with special reference to Infectious Diseases. Diseases of the Respiratory Tract and Therapeutics. Clinical Professor Irons and Dr. Kelly.

Spring: General Medicine. Clinical Professor Dick.

11A. A clinical and demonstration course in Diseases of the Heart and Blood Vessels, including Electrocardiography. Limited to 8 students. Tu., F., 9:00–11:00. 48 hours. .4Mj. Spring. [Not given in 1927.]

13. Clinical Medicine.—A clinical and conference course in medicine. W., Sat., 9:00–11:00. Each course 48 hours. .4Mj.

Summer: Tuberculosis in its various aspects, pulmonary, glandular, abdominal, etc., and covering diagnosis, therapy, hygienic principles, and sociology. Assistant Clinical Professor Ritter and Dr. Wheaton.

Autumn: General Medicine with special reference to Diseases of the Alimentary Tract. Clinical Professor Brown.

Winter: General Medicine with special reference to Diseases of the Alimentary Tract. Clinical Professor Brown.

Spring: General Medicine with special reference to Diagnosis and Therapeutics Associate Clinical Professor Abbott.

23. Therapeutic Clinic.—A medical clinic at the Cook County Hospital, with special reference to Therapeutics. Autumn, Winter, and Spring, Wed., 2:00–4:00 P.M. 24 hours. .2Mj. Assistant Professor Gatewood.

27. Industrial Medicine.—A clinical and conference course dealing with the Human Maintenance Department in the Industries, including preventive medicine, etc. For details see special bulletin. Limited to 10 students. Tu. and F., 7:00–9:00 P.M. 48 hours. .4Mj. DRS. LYON, AVERY, SINGER, AND OTHERS.

33. Variola (extra-mural).—A clinical course in Variola, at the Chicago Isolation Hospital, at intervals as material is afforded. Classes limited to 10 each. .2M. ASSOCIATE CLINICAL PROFESSOR HOYNE.

36. Clinical Diagnosis Course.—Advanced work in Clinical Diagnosis, etc. Limited to 4 students. W., 9:00–11:00. 24 hours. .3Mj. Each Quarter, by arrangement in advance, ASSOCIATE CLINICAL PROFESSOR LINNELL.

37. Hematologic Diagnosis (with demonstrations).—Limited to 10 students. Section *a*, M., Th., 8:00–9:00; section *c*, W., S., 8:00–9:00. .2Mj. Autumn, Winter, and Spring Quarters. DR. SCHULHOF.

38. Conference Course on Current Clinical Problems.—Tu., 8:00–9:00, 12 hours. 1Mj. At Durand Hospital. DR. SCHULHOF.

41. The Technic of Medication.—A lecture and demonstration course on therapeutic management and the administration of medicines, including practice in prescription-writing. .4Mj. Autumn and Spring. Tu., Fri., 11:00–12:00. ASSOCIATE CLINICAL PROFESSOR FANTUS.

43. Physiotherapy.—A conference and practical course on the methods of physical therapy including methods of reconstruction. Each Quarter, Tu. and F., 11:00–1:00. 48 hours. .4Mj. Limited to 10 students. DR. CARLSTROM AND OTHERS.

50. Clinical Clerkship in Presbyterian Hospital.—One month. 9:00–4:00 daily. 144 hours. 1–1.2 Mjs. The amount of credit will be determined by quality of work done on recommendation of the department. Limited to 12 students. Taken in combination with similar courses in other departments. The student will work in the wards of the hospital under supervision of the staff of the hospital. His work will include taking of the history and the examination of the patient, the making of routine laboratory examinations, observation of the course of the disease and study of the therapeutic methods employed.

50A. Clinical Clerkship in Michael Reese Hospital.—(Same as Course 50.) Limited to 6 students.

50B. Clinical Clerkship in Washington Boulevard Hospital.—(Same as Course 50.) Limited to 4 students.

50C. Clinical Clerkship in St. Luke's Hospital.—(Same as Course 50.) Limited to 6 students.

53. Materia Medica and Therapeutics.—A lecture and conference course dealing with the physical, chemical, and pharmaceutical properties of medicinal agents, their toxicology, and therapeutic application in the treatment of disease. Lectures and conferences. Winter and Spring Quarters. 48 hours. M., Wed., Th., 8:00–9:00. .6Mj. CLINICAL PROFESSOR TIEKEN AND ASSISTANTS.

53A. Toxicology and Materia Medica.—A lecture, conference and laboratory course dealing with the practical work in toxicology and materia medica. Autumn and Spring. Tu., F., 9:00–11:00. 48 hours. .6Mj. DR. MILLER.

53B. Toxicology.—An advanced conference and laboratory course dealing with the physical and chemical properties of the more important poisons, their effects and treatment, and their detection. Conferences and laboratory. 60 hours. .8Mj. Hours to be arranged. ASSISTANT CLINICAL PROFESSOR MCNALLY.

61. Medical Jurisprudence, Hygiene, and Preventive Medicine.—A lecture course supplemented by recitations and conferences. Tu., Th., and S., 8:00–9:00. .6Mj. Winter, CLINICAL PROFESSOR RALPH WEBSTER AND MR. KELLY.

63. Examinations for Life Insurance.—A lecture and conference course on the nature and purpose of life insurance, the duties and essential qualifications of the examiner for life insurance, etc. 12 hours. W., 5:00–6:00. .2Mj. Winter, EMERITUS PROFESSOR DODSON AND ASSOCIATE CLINICAL PROFESSOR LINNELL.

64. Medical Economics.—A lecture course in Medical Economics and Ethics. 6 hours. Hours to be announced. .1Mj. Winter.

65. General Review of the Clinical Branches.—A conference and recitation course affording Senior students an opportunity to review the clinical branches and to coordinate their knowledge in preparation for examinations for license or for hospital interneships and for practice of medicine. In sections limited to 30 students each. 6 hours per week for each section. Summer, sec. *a*, M., W., Th., 4:00–6:00; sec. *b*, Tu., Wed., and F., 4:00–6:00; 1Mj.

65A. A continuation of course 65. Autumn. 1Mj.

65B. A continuation of course 65A. Winter. .5Mj.

68. Military Medicine.—A course in medicine, hygiene, sanitation, administration, and surgery as related to the medical departments of the army, navy, and marine corps. F., 12:00–2:00. .2Mj.

Courses for first, second, third, and fourth years are arranged in accordance with the program authorized by the Surgeon-General, U.S.A.

69. Medical History and Medical Writing.—A lecture course on the evolution of modern medicine and on the art of medical writing. 12 hours. .2Mj. Tu., 5:00–6:00. Autumn Quarter, Assistant Clinical Professor Morris Fishbein.

GRADUATE COURSES IN MEDICINE

A limited number of graduates will be accepted for work in General Medicine. For the present the course may be for either one or two years. Applicants must be approved by a department Committee. For particulars apply to Clinical Professor James B. Herrick.

NERVOUS AND MENTAL DISEASES

OFFICERS OF INSTRUCTION

Thor Rothstein, M.D., Clinical Professor of Neurology.
Peter Bassoe, M.D., Clinical Professor of Neurology.
Sydney Kuh, M.D., Clinical Professor of Neurology.
James Cornelius Gill, M.D., Clinical Professor of Neurology.
George Washington Hall, A.M., M.D., Clinical Professor of Neurology.
Josephine Estabrook Young, M.D., Assistant Clinical Professor of Neurology.
John Favill, M.D., Assistant Clinical Professor of Neurology.
Harry Richard Hoffman, M.D., Clinical Instructor in Neurology.
Loren William Avery, M.D., Clinical Instructor in Neurology.
Morris Braude, M.D., Clinical Associate in Neurology.
Victor E. Gonda, M.D., Clinical Associate in Neurology.
Mary Gritzner Schroeder, M.D., Clinical Associate in Neurology.
Richard B. Richter, M.D., Clinical Associate in Medicine (Nervous Diseases).
David B. Rotman, M.D., Clinical Associate in Neurology.

COURSES OF INSTRUCTION

3D. Diseases of the Nervous System.—A clinical and conference course in Cook County Hospital. Limited to 10 students. M., Th., 9:00–11:00. 48 hours. .4Mj. Autumn, Winter, and Spring, Assistant Clinical Professor Favill.

19. Clinical Psychiatry.—Demonstration and Conference Course, Psychopathic Hospital. Prerequisite: course 22 or 22A. Tu., 4:00–6:00. 24 hours. .2Mj. Limited to 10 students. Autumn, Winter, and Spring, Clinical Professor Kuh.

19A. Pathology of the Nervous System.—A demonstration, clinical, and conference course, including discussion of symptoms depending upon various pathologic changes in

the nervous system. Prerequisite: one clinical course in Nervous Diseases. Tu., F., 8:00. 24 hours. .4Mj. Autumn and Winter, CLINICAL PROFESSOR ROTHSTEIN AND DR. AVERY.

21. Diseases of the Nervous System.—A clinical and conference course. Limited to 40 students. M., Th., 9:00–11:00. 48 hours. .4Mj. Autumn, CLINICAL PROFESSOR HALL; Winter, CLINICAL PROFESSOR GILL; Spring, CLINICAL PROFESSOR BASSOE.

22. Psychiatry.—A clinical and conference course at the Cook County Hospital. Topic Insanity. M., 4:00–6:00. 24 hours. .2Mj. Autumn and Winter, CLINICAL PROFESSOR KUH AND DR. BRAUDE.

22A. A Clinical and Conference Course in Psychiatry at the Cook County Psychopathic Hospital.—Spring, Tu., 9:00–11:00. 24 hours. .2Mj. CLINICAL PROFESSOR HALL.

50. Clinical Clerkship in Presbyterian Hospital.—One month. 9:00–5:00 daily 168 hours. 1–1.2Mjs. The amount of credit will be determined by quality of work done on recommendation of the department. Limited to 12 students. Taken in combination with similar courses in other departments. The student will work in the wards of the hospital under supervision of the staff of the hospital. His work will include the taking of history and the examination of the patient, the making of routine laboratory examinations, observations of the course of the disease, and study of the therapeutic methods employed.

50A. Clinical Clerkship in Michael Reese Hospital.—(Same as Course 50.) Limited to 2 students.

50B. Clinical Clerkship in Washington Boulevard Hospital.—(Same as course 50.) Limited to 2 students.

50C. Clinical Clerkship in St. Luke's Hospital.—(Same as Course 50.) Limited to 2 students.

THE DEPARTMENT OF PEDIATRICS

RUSH MEDICAL COLLEGE

OFFICERS OF INSTRUCTION

CLIFFORD GROSSELLE GRULEE, A.M., M.D., LL.D., Clinical Professor and Chairman of the Department of Pediatrics.
ARCHIBALD HOYNE, M.D., Associate Clinical Professor of Pediatrics.
FRANK WESLEY ALLIN, A.M., M.D., Assistant Clinical Professor of Pediatrics.
ARTHUR H. PARMELEE, M.D., Assistant Clinical Professor of Pediatrics.
OSCAR ELIAS CHASE, M.D., Assistant Clinical Professor of Pediatrics.
AUGUST STRAUCH, M.D., Clinical Instructor in Pediatrics.
CECIL THEODORE HEIDEL, M.D., Clinical Instructor in Pediatrics.
CHARLES KLAUS STULIK, M.D., Clinical Instructor in Pediatrics.
JOHN ALEXANDER GARDINER, M.B., Clinical Instructor in Pediatrics.
ROBERT HUGH GRAHAM, M.D., Clinical Associate in Pediatrics.
HENRY CLAY NIBLACK, M.D., Clinical Associate in Pediatrics.
PROCTOR COOK WALDO, M.D., Clinical Associate in Pediatrics.
EVELINA W. EHRMANN, M.D., Clinical Associate in Pediatrics.
RALPH THOMAS VAN TUYL, M.D., Clinical Assistant in Pediatrics.
TONEY TAYLOR CROOKS, M.D., Clinical Assistant in Pediatrics.
GILBERT JOHN SCHWARTZ, M.D., Clinical Assistant in Pediatrics.
WILLIAM L. BUHRMAN, M.D., Clinical Assistant in Pediatrics.
BEATRICE RUSSELL LOVETT, M.D., Clinical Assistant in Pediatrics.
JOHN JOSEPH ZAVERTNIK, M.D., Clinical Assistant in Pediatrics.
GEORGE F. MUNNS, M.D., Clinical Assistant in Pediatrics.
GEORGE ALVIN BARNETT, M.D., Clinical Assistant in Pediatrics.
ELEANOR LESLIE, M.D., Clinical Assistant in Pediatrics.
RUTH TAYLOR, M.D., Clinical Assistant in Pediatrics.
ALVAH HAYDEN GIBSON, M.D., Clinical Assistant in Pediatrics.

INTRODUCTORY

A total of 1 major in Pediatrics is required. The courses specifically required are 1, 4, 4A, 4B or 4C, 7 or 50. Course 1 must be taken before, or at the same time as, course 7 or 50. It is recommended that special courses in Infant Feeding be taken in addition.

COURSES OF INSTRUCTION

1. The Principles of Pediatrics.—A conference and recitation course comprising the anatomy, physiology, and hygiene of infancy and childhood, the dietetics of infancy and childhood and the commoner diseases of infancy and childhood. Prerequisite to every other course in pediatrics. Limited to 30 students. Autumn, sec. *a* Tu., Fri., 8:00, DR. STULIK; sec. *b*, DR. WALDO. Spring, sec. *a*, Wed., Sat., 8:00, ASSISTANT CLINICAL PROFESSOR PARMELEE; sec. *b*, Wed., Sat., 8:00, ASSISTANT CLINICAL PROFESSOR CHASE; sec. *c*, Wed., Sat., 11:00, DR. GARDINER. 24 hours. .4Mj. (Courses 1 and 7 may be taken in the same Quarter.)

4. Contagious Diseases.—A conference and recitation course on contagious diseases. No limit in attendance. Autumn and Spring, F., 8:00–9:00 A.M., once a week for six weeks. ASSOCIATE CLINICAL PROFESSOR HOYNE. .1Mj.

4A. Clinical Course in Contagious Diseases.—A clinic at the Durand Hospital. Six sections of 3 students each. One hour a week for one Quarter. Sec. *a*, M., 8:00–9:00; sec. *b*, Tu., 8:00–9:00; sec. *c*, Wed., 8:00–9:00; sec. *b*, Th., 8:00–9:00; sec. *e*, F., 8:00–9:00; sec. *f*, Sat., 8:00–9:00. Professor Weaver and Dr. Crooks. .1Mj.

4B. Clinic on Contagious Diseases.—Clinic in Contagious Department of Cook County Hospital. Two hours a week for one term. Autumn, Winter, and Spring Quarters. Limited to 12 students in each section. Sat., 11:00–1:00. Associate Clinical Professor Hoyne. .1Mj.

4C. Clerkship.—Municipal Contagious Hospital, 1 week.

7. Dispensary.—A course in the Central Free Dispensary. Sec. *a*, M., Th., 9:00–11:00, Central Free Dispensary, Dr. Heidel. Limited to 4 students. Sec. *b*, Tu., F., 9:00–11:00, Central Free Dispensary, Dr. Stulik, and Welfare Clinic 20A. Dr. Niblack. Limited to 10 students. Sec. *c*, W., S., 9:00–11:00, Central Free Dispensary, Dr. Gardiner. Limited to 4 students. 48 hours. .4Mj.

12. Pediatric Clinic.—A clinic and conference course at the Presbyterian Hospital. Tu., F., 9:00–11:00. 48 hours. Limited to 25 students. Summer, Assistant Clinical Professor Parmelee; Autumn, Winter, and Spring, Clinical Professor Grulee. Each Quarter there will be given two clinical periods in Diseases of the Heart in Children, Dr. Gardiner, one period on Nephritis in Children, Dr. Rinder, one period on congenital syphilis, Dr. Waldo. .4Mj.

14. Pediatric Clinic.—A clinic and conference course at the Presbyterian Hospital. M., Th., 9:00–11:00. 48 hours. Limited to 15 students. Autumn and Winter, Assistant Clinical Professor Parmelee. .4Mj.

15. Nutrition Clinic.—A clinical and conference course at the Central Free Dispensary, Postnatal clinic. Sec. *a*, M., sec. *c*, Wed., sec. *d*, Th. 9:00–11:00. 24 hours. Each Quarter. Assistant Clinical Professor Chase and Drs. Barnett and Taylor.

15A. Nutrition Clinic.—The feeding and care of older children (two to six years of age). Th., 9:00–11:00. 24 hours. Each Quarter. Limited to 5 students. .2Mj. Dr. Graham.

15B. Nutrition Clinic.—The feeding and care of older children (six to sixteen years of age). Sat., 9:00–11:00. 24 hours. Each Quarter. Limited to 5 students. .2Mj. Assistant Professor Allin.

16. Pediatric Clinic at the Cook County Hospital.—A clinic and conference course at the Cook County Hospital. Each Quarter Tu., 7:00–9:00 p.m. 24 hours. Autumn, Spring, Assistant Clinical Professor Parmelee; Summer and Winter, Dr. Stulik.

20A. Infant Welfare Clinic.—Ashland Infant Welfare Station, 1759 West 14th Place. First and second terms. Limited to 5 students. Tu., Fri., 9:00–11:00. Dr. Niblack. .2Mj.

50. Clinical Clerkship in Presbyterian Hospital and Central Free Dispensary.—One month. 9:00–5:00 daily. 168 hours. Limited to 6 students. Taken in combination with similar courses in other departments. 1–1.2Mjs. Amount of credit will be determined by quality of work done on recommendation of the department.

50A. Clinical Clerkship in Michael Reese Hospital.—(Same as Course 50.) Limited to 4 students.

50C. Clinical Clerkship in St. Luke's Hospital.—(Same as Course 50.) Limited to 4 students.

GRADUATE COURSE IN PEDIATRICS

A limited number of graduates will be accepted for work in Pediatrics. The course will be for two years. Applicants must have had at least one year's interneship in a creditable hospital and must be approved by a department Committee. For particulars apply to Clinical Professor Clifford G. Grulee.

THE DEPARTMENT OF SURGERY

RUSH MEDICAL COLLEGE

OFFICERS OF INSTRUCTION

ARTHUR DEAN BEVAN, A.M., M.D., Nicholas Senn Clinical Professor* and Chairman of the Department of Surgery.

WILLIAM THOMAS BELFIELD, M.D., Professor Emeritus of Surgery (Genito-Urinary).

DALLAS B. PHEMISTER, M.D., Clinical Professor of Surgery.

CHARLES AUBREY PARKER, M.D., Associate Clinical Professor of Surgery (Orthopedic).

CARL BRADEN DAVIS, S.B., M.D., Associate Clinical Professor of Surgery.

FREDERICK BROWN MOOREHEAD, D.D.S., M.D., Associate Clinical Professor of Surgery (Oral and Dental).

ROBERT HARRY HERBST, M.D., Associate Clinical Professor of Surgery (Genito-Urinary).

HERMAN LOUIS KRETSCHMER, M.D., Associate Clinical Professor of Surgery (Genito-Urinary).

VERNON CYRENIUS DAVID, M.D., Associate Clinical Professor of Surgery.

KELLOGG SPEED, M.D., Associate Clinical Professor of Surgery.

PAUL OLIVER, M.D., Assistant Clinical Professor of Surgery.

GEORGE GILBERT DAVIS, M.D., Assistant Clinical Professor of Surgery.

DANIEL NATHAN EISENDRATH, M.D., Assistant Clinical Professor of Surgery (Genito-Urinary).

ISABELLA COLER HERB, M.D., Assistant Clinical Professor of Surgery (Anaesthetics).

ALBERT HORR MONTGOMERY, M.D., Assistant Clinical Professor of Surgery.

GATEWOOD GATEWOOD, A.M., M.D., Assistant Clinical Professor of Surgery.

EDWARD JAMES LEWIS, M.D., Assistant Clinical Professor of Surgery.

EDWIN MORTON MILLER, M.D., Assistant Clinical Professor of Surgery.

GOLDER LEWIS MCWHORTER, M.D., PH.D., Assistant Clinical Professor of Surgery.

CASSIE BELLE ROSE, M.D., Assistant Clinical Professor of Surgery (Radiology).

HUGH MCKENNA, M.D., Assistant Clinical Professor of Surgery.

DAVID C. STRAUS, M.D., Assistant Clinical Professor of Surgery.

ROGER THROOP VAUGHAN, M.D., Assistant Clinical Professor of Surgery.

HUGH JAMES POLKEY, M.D., Clinical Instructor in Surgery (Genito-Urinary).

JACOB MYERS, M.D., Clinical Instructor in Surgery (Orthopedic).

ELVEN JAMES BERKHEISER, M.D., Clinical Instructor in Surgery (Orthopedic).

MARY M. LYONS, M.D., Clinical Instructor in Surgery (Anaesthetics).

MELBOURNE CLEMENTS, M.D., Clinical Instructor in Surgery (Genito-Urinary).

GEORGE HENRY JACKSON, JR., M.D., Nicholas Senn Fellow in Surgery and Clinical Instructor in Surgery.

FRANCIS HOWE STRAUS, M.D., Clinical Instructor in Surgery.

HARRY ALVIN OBERHELMAN, M.D., Clinical Instructor in Surgery.

THOMAS COTTRELL, M.D., Clinical Associate in Surgery (Genito-Urinary).

WALTER THOMAS VENN, M.D., Clinical Associate in Surgery (Genito-Urinary).

HILLIER L. BAKER, M.D., Clinical Associate in Surgery.

* The Nicholas Senn Professorship was founded in 1898 by the late Professor Nicholas Senn, with a gift to the college of $25,000 for the promotion of higher medical education and the advancement of medical science. He was professor of the principles of surgery in Rush Medical College from 1889 to 1891 and professor of surgery from 1891 to 1908.

Edward Buckman, M.D., Clinical Associate in Surgery (Genito-Urinary).
Jay Ireland, M.D., Clinical Assistant in Surgery.
Randolph Francis Olmsted, S.B., M.D., Thomson-Bevan Fellow in Surgery; Assistant House Surgeon, Presbyterian Hospital.
Edgar Cleveland Turner, M.D., Francis A. Hardy Fellow in Surgery; Assistant House Surgeon, Presbyterian Hospital.
Bernard Parker Mullen, M.D., Clinical Assistant in Surgery.
William John Gallagher, M.D., Clinical Assistant in Surgery.
Earl Roach McCarthy, M.D., Clinical Assistant in Surgery (Genito-Urinary).
Andrew Joseph Sullivan, M.D., Clinical Assistant in Surgery (Genito-Urinary).
Walter John Shudde, M.D., Clinical Assistant in Surgery (Genito-urinary).
Knowlton E. Barber, M.D., Clinical Assistant in Surgery (Genito-urinary).
Joseph H. Chivers, M.D., Clinical Assistant in Surgery.
Julius Joseph Mussil, M.D., Clinical Assistant in Surgery.
Harold Irving Meyer, M.D., Clinical Assistant in Surgery.
Charles N. Pease, M.D. Clinical Assistant in Surgery (Orthopedic).
Charles Grafton Weller, M.D., Clinical Assistant in Surgery (Genito-urinary.)
Willis J. Potts, M.D., Clinical Assistant in Surgery.
Frank V. Theis, M.D., Clinical Assistant in Surgery.
Minas Joannides, M.D., Clinical Assistant in Surgery.

INTRODUCTORY

A total of 5 majors in surgery is required. The following courses are specifically required: 1, 2, 3, 5, and 50. In addition, the student should plan his clinical courses to include at least one clinic in each of the Regional Divisions.

COURSES OF INSTRUCTION

I. JUNIOR YEAR

1. Principles of Surgery and Surgical Pathology.—A conference and laboratory course. Sec. *a*, M., Th., 11:00–1:00. and secs. *b* and *c* M. Th. 4:00–6:00. 36 hours. .5Mj. Autumn and Spring, Associate Clinical Professor David, Assistant Clinical Professors Gatewood, Miller, McWhorter, Drs. Straus and Oberhelman.

2. Principles of Surgery and Surgical Pathology.—A conference and laboratory course. 36 hours. .5Mj. Winter, sec. *a*, M. and Th., 11:00–1:00; and secs. *b* and *c* M., Th., 4:00–6:00. Summer, M. and Th., 11:00–1:00, Associate Clinical Professor David, Assistant Clinical Professors Gatewood, Miller, McWhorter, Drs. Straus and Oberhelman.

3. Surgical Anatomy and Operative Surgery on the Cadaver.—A demonstration and operative course. Sec. *a*, M., Th., 11:00–1:00; sec. *b*, Tu., F., 11:00–1:00. 48 hours. .4Mj. Winter and Spring, Assistant Clinical Professors Gatewood, Montgomery, McWhorter, Miller, Drs. Straus and Baker.

5. Clinical Surgery (Central Free Dispensary).—Including bandaging, surgical dressings, and surgical appliances. Daily, 11:00–1:00. 48 hours. .4Mj. Each Quarter throughout the year. Sec. *a*, M., Th.; sec. *b*, Tu., F.; sec. *c*, W., Sat. Each section limited to 12 students. Assistant Clinical Professors Montgomery, Miller, McWhorter, Drs. Ireland, Baker, Straus, Jackson, Gallagher, Meyer, Mussil, and Joannides.

This course may be elected by Junior students after one quarter's residence in the clinical years during which other courses in surgery have been taken.

14. Orthopedic Surgery.—A clinical course at the Home for Crippled Children, 1653 Park Avenue, Summer, Autumn, Winter, and Spring. 48 hours. .4Mj. Sec. *a*, M., Th., 2:00–4:00; sec. *b*, Tu., F., 2:00–4:00; sec. *c*, W., Sat., 2:00–4:00, Associate Clinical Professor Parker and Drs. Myers and Berkheiser.

II. JUNIOR AND SENIOR YEARS

6. Clinical Surgery.—A clinical and conference course in general surgery, with special reference to and examination in the surgery of the abdomen. This course includes instruction in the administration of anaesthetics. 11:00–1:00, M. and Th., Tu. and F., 48, 60, or 96 hours. .4, .6, or .8Mj. Autumn, Clinical Professor Bevan, Clinical Professor Phemister, and Associates.

8. Clinical Surgery.—A clinical and conference course in general surgery, with special reference to and examination in the surgery of the head, neck, and thorax. This course includes instruction in the administration of anaesthetics. M. and Th., Tu., and F., 11:00–1:00. 48, 60, or 96 hours. .4, .6, or .8Mj. Winter, Clinical Professor Bevan, Clinical Professor Phemister, and Associates.

10. Clinical Surgery.—A clinical and conference course in general surgery, with special reference to and examination in surgery of the extremities. This course includes instruction in the administration of anaesthetics. M., Tu., Th., and F., 11:00–1:00. 48, 60, or 96 hours. .4, .6, or .8Mj. Spring, Clinical Professor Bevan, Clinical Professor Phemister, and Associates.

12. Clinical Surgery.—A clinical and conference course in general surgery. This course includes instruction in the administration of anaesthetics. M., Tu., Th., and F., 11:00–1:00. 48, 60, or 96 hours. .4, .6, or .8Mj. Summer, Clinical Professor Bevan, Clinical Professor Phemister, and Associates.

13. Laboratory and research work may be elected by a limited number of students in the laboratories of Surgical Pathology, and credit in proportion to the character and length of course may be granted, but not to exceed in any one quarter .4Mj. Clinical Professor Phemister and Dr. Oberhelman.

15. Orthopedic Surgery and Clinical Course in Central Free Dispensary.—Tu. and F., 11:00–1:00. 48 hours. .4Mj. Autumn, Winter, and Spring. Dr. Berkheiser.

16. Practical Course in Operative Surgery on Animals.—Given to the class in sections. Limited to 32 students. Sec. *a*, M., 11:00–1:00; sec. *b*, Tu. 11:00–1:00. 24 hours. .2Mj. Summer and Autumn, Assistant Clinical Professors Gatewood, Montgomery, Miller, McWhorter, and Drs. Baker and Straus.

17. Genito-urinary Diseases (Central Free Dispensary).—A clinical and conference course in diseases of the genito-urinary tract. Sec. *a*, M., Th.; sec. *b*, Tu., F. sec. *c*, W., Sat., 4:00–6:00. 48 hours. .4Mj. Summer, Autumn, Winter, and Spring, Associate Clinical Professors Herbst and Kretschmer, and Drs. Polkey, Cottrell, Venn, Clements, Buckman, McCarthy, and Sullivan.

18. Clinical Course of the Cook County Hospital.—Topics: Surgery of Neck, and Surgery of Gall Bladder, Spleen, and Pancreas, alternating quarters. Class limited to 10 students. Tu., 11:00–1:00. 24 hours. .2Mj. Autumn, Winter, and Spring. Assistant Clinical Professor D. C. Strauss.

19. Clinical Course at the Cook County Hospital.—Topics: Autumn and Winter: Fractures; Spring: General Surgery. Tu., 2:00–4:00. 24 hours. .2Mj. Associate Professor Kellogg Speed.

20. Clinical Course at the Cook County Hospital.—Topic: General Surgery. Class limited to 10 students. F., 11:00–1:00. 24 hours. .2Mj., Autumn and Spring, Associate Professor David, Summer and Winter, Assistant Clinical Professor E. J. Lewis.

21. Clinical Course at the Cook County Hospital (Genito-urinary).—W., 2:00–4:00. 24 hours. .2Mj. Summer, Autumn, Winter, and Spring. Assistant Clinical Professor Eisendrath.

22. Clinical Course at the Cook County Hospital.—General Surgery. Class limited to 20 students. Tu., 7:00–9:00 P.M. 24 hours. .2Mj. Each Quarter. ASSISTANT CLINICAL PROFESSOR VAUGHAN.

23. Clinical Course at the Cook County Hospital.—Topic: General Surgery, with Special Reference to Spinal Column and Cord. W., 4:00–6:00. 24 hours. .2Mj. Autumn, Winter, and Spring. ASSISTANT CLINICAL PROFESSOR GEO. G. DAVIS.

24. Clinical Course at the Cook County Hospital.—Topic: General Surgery with Special Reference to—Autumn: Head and Neck; Winter: Extremities; Spring: Abdomen. Class limited to 20 students. W., 7:00–9:00 P.M. 24 hours. .2Mj. ASSISTANT CLINICAL PROFESSOR OLIVER.

25. Orthopedic Clinic at the Cook County Hospital.—Clinical course, with special reference to the orthopedic affections of adults. M., 2:00–4:00. 24 hours. .2Mj. Each Quarter. ASSOCIATE CLINICAL PROFESSOR PARKER.

26. Clinical Course at the Cook County Hospital.—Topic: General Surgery. Class limited to 10 students. Autumn and Spring, F. 7:00–9:00 P.M. 24 hours. .2Mj. ASSISTANT CLINICAL PROFESSOR E. J. LEWIS.

27. Clinical Course at the Cook County Hospital.—Class limited to 20 students. Autumn, Winter, Spring, Wed., 11:00–1:00. 24 hours. .2Mj. ASSISTANT CLINICAL PROFESSOR VAUGHAN.

29. Operative Surgery for Postgraduates.—On dogs, surgery of the abdomen. On the cadaver, surgery of the head, neck, thorax, and extremities. Four weeks, beginning July 1 and August 1. M., W., F., 4:00–6:00. Other days or months by special arrangement. Four or 8 students. ASSISTANT CLINICAL PROFESSOR MCWHORTER.

30. Anaesthetics.—A conference and demonstration course on the administration of anaesthetics. Sat., 2:00–3:00. .1Mj. Autumn and Spring, Second Term, ASSISTANT CLINICAL PROFESSOR HERB.

33. Roentgenology.—A conference and demonstration course on the use of the X-ray in diagnosis and treatment, and on the general principles of radiographic technique. Limited to 25 students. W., 2:00–4:00. .2Mj. Autumn, Winter, and Spring, First Term, ASSISTANT CLINICAL PROFESSOR ROSE.

34. Genito-urinary Surgery.—A clinical and conference course in diseases of the genito-urinary tract. W., 11:00–1:00. 24 hours. .2Mj. Autumn, ASSOCIATE CLINICAL PROFESSORS HERBST AND KRETSCHMER.

35. Oral and Dental Surgery.—A clinical and conference course on the surgery of the mouth and teeth. W., 11:00–1:00. 24 hours. .2Mj. Winter, ASSOCIATE CLINICAL PROFESSOR MOOREHEAD.

50. Clinical Clerkship in Presbyterian Hospital.—One month. 9:00–4:00 daily. 168 hours. 1–1.2Mjs. The amount of credit will be determined by quality of work done on recommendation of the department. Limited to 12 students. Taken in combination with similar courses in other departments. The student will work in the wards of the hospital under supervision of the staff of the hospital. His work will include taking of the history and the examination of the patient, the making of routine laboratory examinations, observation of the course of the disease and of such operations as may be necessary, and study of other therapeutic methods employed.

50A. Clinical Clerkship in Michael Reese Hospital.—(Same as Course 50.) Limited to 6 students.

50B. Clinical Clerkship in Washington Boulevard Hospital.—(Same as Course 50.) Limited 4 students.

50C. Clinical Clerkship in St. Luke's Hospital.—(Same as Course 50.) Limited to 6 students.

THE DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

RUSH MEDICAL COLLEGE

OFFICERS OF INSTRUCTION

Noble Sproat Heaney, M.D., Clinical Professor and Chairman of the Department of Obstetrics and Gynecology.

John Clarence Webster, M.D., F.R.C.P. (Edin.), Sc.D., LL.D., Professor Emeritus of Obstetrics and Gynecology.

Rudolph Wieser Holmes, M.D., Associate Clinical Professor of Obstetrics and Gynecology.

Carey Culbertson, M.D., Associate Clinical Professor of Obstetrics and Gynecology.

William George Lee, M.D., Assistant Clinical Professor of Obstetrics and Gynecology.

Joseph Louis Baer, S.M., M.D., Assistant Clinical Professor of Obstetrics and Gynecology.

Julius Ernest Lackner, M.D., Assistant Clinical Professor of Obstetrics and Gynecology.

Aaron Elias Kanter, M.D., Assistant Clinical Professor of Obstetrics and Gynecology.

Frederick William Rohr, M.D., Clinical Instructor in Obstetrics and Gynecology.

Paul Christopher Fox, M.D., Clinical Instructor in Obstetrics and Gynecology.

Fiske Jones, M.D., Clinical Instructor in Obstetrics and Gynecology.

Kathleen Regan Harrington, M.D., Clinical Associate in Obstetrics and Gynecology.

George Fielding Hibbert, M.D., Clinical Associate in Obstetrics and Gynecology.

Leon Wade Martin, M.D., Clinical Associate in Obstetrics and Gynecology.

Gerritt Cotts, M.D., Clinical Associate in Obstetrics and Gynecology.

Edward Dudley Allen, M.D., Clinical Associate in Obstetrics and Gynecology.

Carl Philip Bauer, M.D., Clinical Assistant in Obstetrics and Gynecology.

INTRODUCTORY

The subjects of Obstetrics and Gynecology are taught in the Junior and Senior years in recitation, and conference courses in Dispensary and Hospital clinics, and in the conduct of labor in the homes of patients. The total requirement is 3 majors, at least 2 majors of which must be taken in obstetric courses and .6 major in Gynecology.

COURSES OF INSTRUCTION

JUNIOR YEAR

1. Conference and Demonstration Course in Obstetrics and Gynecology.—The female pelvis and genitalia, puberty and menstruation, anatomy, physiology, the diagnosis of pregnancy, management of normal pregnancy, physiology and clinical course of normal labor, and the puerperium, mechanism in vertex presentation. Mechanism in face, brow, pelvic, and shoulder presentations, the new-born child, multiple pregnancy, obstetric operations and manipulations. Limited to 35 students in each

section. Autumn and Spring, Wed., Sat., 11:00–1:00. .6Mj. Assistant Clinical Professors Baer, Lackner, and Kanter, and Drs. Martin, Hibbert, Cotts, Jones, Fox, and McCullough.

2. Conference and Demonstration Course in Obstetrics.—Induced termination of pregnancy, forceps, version, operations for enlarging the pelvic diameters, caesarean section, embryotomy, manikin demonstrations. Pathology of pregnancy, the toxemias, ectopic gestation, premature expulsion and diseases of ovum, pathology of labor, anomalies of expellent forces, soft passages, bony pelvis and fetus, the hemorrhages, injuries of birth canal, prolapse of cord, pathology of puerperium, diseases and abnormalities, sepsis. Prerequisite: course 1. Winter and Summer. Wed., Sat., 11:00–1:00, or Tues., Fri., 4:00–6:00. .6Mj. Associate Clinical Professor Holmes, Assistant Clinical Professors Baer, Lackner, and Kanter, and Drs. Martin, Hibbert, Cotts, Jones, and Fox.

3. Conference Course in Gynecology.—Anatomy, gross and histological of the internal and external genitalia. Menstruation and its disorders. History-taking. Symptoms in gynecology. Methods of examination. Anomalies of the genital tract. Malpositions of the uterus. Acute and chronic infections of the internal and external genitalia. New growths of the uterus, tubes, and ovaries. Tu. and F., 12:00–1:00. 12 hours. .4Mj. Gynecology. Each Quarter. Assistant Professor Kanter, Drs. Fox, Jones, and Allen.

3A. Conferences and Clinical Course in Obstetrics at the Cook County Hospital.—Tu., F., 2:00–4:00. 48 hours. .4Mj. Autumn, Winter, and Spring, Assistant Clinical Professor Lee.

5. Clinical Obstetrics.—In the maternity department of the Presbyterian Hospital, Chicago Lying-in Dispensary, Central Free Dispensary, and Michael Reese Hospital. Attendance upon cases of confinement in various hospitals and at the homes of patients is required of each student before graduation. Each student will be summoned to cases at the time of delivery and will attend the patients during and after delivery under supervision. Clinical records must be kept by students and certificates obtained. Prerequisite: courses 1, 2, and 3. .4Mj. Throughout the year. Clinical Professor Heaney, Assistant Clinical Professor Kanter, and Drs. Jones and Rohr. *Nurses*: Mabel W. Hubbard and Ellen Pehrson

6. Conference and Demonstration Course.—A gross and microscopic study of the female genitalia, both normal and pathologic, including the changes found in menstruation and in pregnancy. Limited to 15 students. Each Quarter, Wed., Sat., 11:00–1:00. 48 hours. .4Mj. (Obstetrics .2Mj.; Gynecology .2). Prerequisite to course 10. Associate Clinical Professors Culbertson, Assistant Clinical Professor Kanter, Drs. Fox and Jones.

8. Dispensary Clinics.—Conferences in practical gynecology. Prerequisite: course 1 or 6. Limited to 6 in each section. 24 hours. .4M., each term throughout the year. Sec. *a*, M., Th., 11:00–1:00, Assistant Clinical Professor Kanter, Drs. Harrington and Allen; sec. *b*, Tu., F., 11:00–1:00, Drs. Jones, Martin, and Cotts; sec. *c*, W., Sat., 11:00–1:00, Drs. Rohr, Hibbert, and Bauer.

SENIOR YEAR

9. Clinic.—Gynecology and Obstetrics. Prerequisite: course 1 or 6. 48 hours. .4Mj. (Obstetrics .2Mj.; Gynecology .2). Each Quarter throughout the year. W., Sat. 11:00–1:00. Clinical Professor Heaney and Associate Clinical Professor Culbertson.

10. Clinical Course at the Cook County Hospital.—A clinical course in Gynecology. Limited to 15 students. Tu., F., 11:00–1:00. 24 hours. .4Mj. Gynecology. Autumn, Winter, and Spring, Associate Clinical Professor Culbertson.

10A. Clinical Course at the Cook County Hospital.—A clinical course in Gynecology. Limited to 15 students. M., Th., 11:00–1:00. 24 hours. .4Mj. Gynecology. Autumn and Spring. Assistant Clinical Professor Kanter.

11. Special Laboratory Work.—For a limited number of students selected by the Department staff.

50. Clinical Clerkship in Presbyterian Hospital.—One month. 9:00–4:00 daily. 168 hours. 1–1.2Mjs. The amount of credit will be determined by quality of work done on recommendation of the Department. Limited to 6 students. Taken in combination with similar courses in other departments. The student will work in the wards of the hospital under supervision of the staff of the hospital. His work will include the taking of history and the examination of the patient, the making of routine laboratory examinations, observation of the course of the disease and of such operations as may be necessary, and study of other therapeutic methods employed.

50A. Clinical Clerkship in Michael Reese Hospital.—(Same as Course 50.) Limited to 4 students.

50B. Clinical Clerkship in Washington Boulevard Hospital.—(Same as Course 50.) Limited to 4 students.

50C. Clinical Clerkship in St. Luke's Hospital.—(Same as Course 50.) Limited to 4 students.

THE DEPARTMENT OF LARYNGOLOGY AND OTOLOGY

RUSH MEDICAL COLLEGE

OFFICERS OF INSTRUCTION

George Elmer Shambaugh, Ph.B., M.D., Clinical Professor and Chairman of the Department of Laryngology and Otology.

George Abraham Torrison, A.B., M.D., Assistant Clinical Professor of Laryngology and Otology.

Elmer Lawton Kenyon, A.B., M.D., Assistant Clinical Professor of Laryngology and Otology.

David Fiske, M.D., Assistant Clinical Professor of Laryngology and Otology.

Robert Sonnenschein, M.D., Assistant Clinical Professor of Laryngology and Otology.

Thomas Williams Lewis, S.B., M.D., Assistant Clinical Professor of Laryngology and Otology.

Daniel Bernard Hayden, A.M., M.D., Assistant Clinical Professor of Laryngology and Otology.

Henry H. Everett, M.D., Clinical Instructor in Laryngology and Otology.

Edwin McGinnis, A.B., M.D., Clinical Instructor in Laryngology and Otology.

Arthur Churchill Strong, M.D., Clinical Instructor in Laryngology and Otology.

Elmer William Hagens, M.D., Clinical Associate in Laryngology and Otology and Stanton Abeles Friedberg Fellow.

Jacob William Holderman, M.D., Clinical Assistant in Laryngology and Otology.

Richard W. Watkins, S.B., M.D., Resident in Laryngology and Otology, Presbyterian Hospital; E. Fletcher Ingals Scholarship, and Clinical Assistant in Laryngology and Otology.

INTRODUCTORY

Every physician before beginning the practice of medicine should have some working knowledge of the whole field including the specialties. These courses are not designed for specialists or for preparing students to do the work of the specialist. The chief aim is to give the students an insight into the problems with which the specialist has to deal and to give them such practical training as will fit them to make the ordinary examinations of the ear, nose, and throat necessary in the general study of cases.

A total of 1.2Mjs. is required in this Department. Course 1 is prerequisite for course 2.

COURSES OF INSTRUCTION

1. Nose, Throat, and Ear.—Introductory lecture and conference course for Juniors. Prerequisite for courses 2 and 3. M., Th., 4:00. .4Mj. Summer, Nose and Throat, Dr. McGinnis; Ear, Dr. Hagens. Autumn, Nose and Throat, Assistant Clinical Professor Sonnenschein; Ear, Dr. Holderman. Winter, Nose and Throat, Dr. Holderman; Ear, Dr. Hagens. Spring, Nose and Throat, Dr. Strong; Ear, Dr. Hagens. Two hours will be devoted to the defects of Speech by Assistant Clinical Professor Kenyon.

2. Nose, Throat, and Ear.—Clinical and practical courses in the Dispensary in the technique of examination and in the objective study of the normal and the com-

moner pathological conditions of the nose, throat, and ear; also intubation of the larynx; for Juniors and Seniors. Sections limited to 12 students. Each Quarter, 2:00–4:00. 48 hours. .4Mj. Sec. *a*, M., Th.; sec. *b*, Tu., F.; sec. *c*, W., Sat.

3A. Clinical Course: Diseases of the Nose and Throat.—Prerequisite: course 1. W., 2:00–4:00. 24 hours. .2Mj. Summer, DR. MCGINNIS. Autumn, ASSISTANT CLINICAL PROFESSOR LEWIS. Winter, ASSISTANT CLINICAL PROFESSOR SONNENSCHEIN. Spring, ASSISTANT CLINICAL PROFESSOR TORRISON.

3B. Clinical Course: Diseases of the Ear.—Prerequisite: course 1. M., Th., 2:00–3:00. 24 hours. .2Mj. Summer, Autumn, Winter, and Spring, CLINICAL PROFESSOR SHAMBAUGH, ASSISTANT PROFESSOR CLINICAL HAYDEN AND DR. HAGENS.

4. Student Assistants in the Dispensary.—One student for each section, from either the Junior or Senior class, may register each Quarter for work as an assistant in the Dispensary. Sec. *a*, M., Th.; sec. *b*, Tu., F.; sec. *c*, W., Sat., 2:00–4:00. 48 hours. .4Mj.

GRADUATE COURSES*

The work in this Department aims to provide adequate training for a small group of graduate students preparing for the practice of the specialty. These men serve as clinical assistants in the out-patient department for one full year; their forenoons being spent in the laboratories of the University of Chicago, in the study of the fundamental sciences. The special courses aim to assist them in the more difficult phases of the subject. These courses are also open as review courses for those already established in special practice.

5. Clinical assistants in the out-patient department. Central Free Dispensary. One year, each afternoon. Eight services, two beginning each Quarter, January, April, July, and October.

Special Courses for the graduate students serving as clinical assistants open also for practitioners of medicine.

6. Intubation.—6 hours. F., 4:00–5:00. Spring Quarter. ASSISTANT CLINICAL PROFESSOR TORRISON.

7. Speech Defects.—12 hours. M. and Th., 4:00–5:00. Winter Quarter. The important disorders of speech are considered from the standpoint of the anatomy and physiology of speech production including defects of articulation, stammering, the aphonias, organic and function, the difficulties of public speakers and singers, etc. ASSISTANT CLINICAL PROFESSOR KENYON.

8. Bronchoscopy and Suspension Laryngoscopy.—12 hours. Hours arranged with DR. HAGENS.

9. Functional Examination of the Ears.—12 hours. W., 1:00–2:00. Winter Quarter. ASSISTANT CLINICAL PROFESSOR SONNENSCHEIN.

10. Anatomy of the Ear, Nose, and Throat.—24 hours. M., F., 4:00–5:00. Autumn Quarter. ASSISTANT CLINICAL PROFESSOR HAYDEN.

* For details see special *Bulletin of Courses in Otology and Laryngology for Graduate Students in Medicine.*

THE DEPARTMENT OF OPHTHALMOLOGY

RUSH MEDICAL COLLEGE

OFFICERS OF INSTRUCTION

Edward Vail L. Brown, Clinical Professor and Chairman of the Department of Ophthalmology.
William Hamlin Wilder, A.M., M.D., Professor Emeritus of Ophthalmology.
John Bernard Ellis, M.D., Associate Clinical Professor of Ophthalmology.
Charles Gilchrist Darling, M.D., Associate Clinical Professor of Ophthalmology.
William George Reeder, M.D., Associate Clinical Professor of Ophthalmology.
Thomas Dyer Allen, M.D., Assistant Clinical Professor in Ophthalmology.
Earle Bloodgood Fowler, M.D., Assistant Clinical Professor in Ophthalmology.
Georgiana Dvořák Theobald, M.D., Clinical Instructor in Ophthalmology.
Herman Porter Davidson, M.D., Clinical Instructor in Ophthalmology.
James P. Fitzgerald, M.D., Clinical Instructor in Ophthalmology.
Richard Cotter Gamble, M.D., Clinical Associate in Ophthalmology.
Vernon Mayne Leech, M.D., Clinical Associate in Ophthalmology.
Aristoph Spare, M.D., Clinical Associate in Ophthalmology.
Alfred L. Van Dellen, M.D., Clinical Associate in Ophthalmology.
Halbert Andrew Haynes, M.D., Clinical Assistant in Ophthalmology.
Ward Clair Alden, M.D., Clinical Assistant in Ophthalmology.
Joseph George Weber, M.D., Clinical Assistant in Ophthalmology.

INTRODUCTORY

UNDERGRADUATE COURSES

A total of .8 major in Ophthalmology is required for graduation.

The work in this Department is arranged so that the student first gets a general survey of the subject through lecture and recitation courses.

In the same quarter, or the following one, through the courses in "practical ophthalmology" he is taught the methods of examination of the eye by various tests, the necessary manipulations for treatment, and the use of the ophthalmoscope by practical exercises on schematic and living eyes. For this work each student must provide himself with an opthalmoscope.

All this is *preliminary* and *prerequisite* to the clinical courses, in which the student is given the privilege of examining the cases, of studying the progress of the diseases and the effect of the treatment from day to day, and also of witnessing the technique of the operations on the eye. These clinics are on the conference plan, and each exhibition of cases is followed by a discussion on the etiology, pathology, symptomatology, and treatment of the diseases under observation.

Special courses for small classes on the normal and morbid anatomy, histology, and bacteriology of the eye are made particularly instructive by the exhibition of anatomical preparations and microscopic slides.

COURSES OF INSTRUCTION

1. Diseases of the Eye.—A lecture and recitation course. 24 hours. .4Mj. Summer (Seniors), M., Th., 4:00, Dr. Davidson; Autumn (Seniors), Tu., F., 4:00, Associate Clinical Professor Reeder; Winter (Seniors), M., Th., 4:00, Associate Clinical Professor Ellis. Spring (Juniors), M., Th., 4:00, Associate Clinical Professor Darling.

2. Practical Ophthalmology in the Central Free Dispensary.—Limited to 10 students in each section. Each student must provide himself with an ophthalmoscope. Each Term of every Quarter. 12 hours. .2Mj. Sec. *a*, M., Th., 3:00–4:00, Autumn, Winter, Dr. Van Dellen, and Spring, Dr. Haynes, sec. *b*, Tu., F., 3:00–4:00, Summer, Dr. Leech, Autumn, Winter and Spring, Dr. Davidson; sec. *c*, W., S., 3:00–4:00, Autumn, Winter, and Spring, Dr. Fowler.

Courses 1 and 2 may be taken in the same quarter, but both are prerequisite to all clinical courses.

3. Clinical Conference, and Lecture Course.—Prerequisite: course 1 and 2. Limited to 30 students. Each Quarter, M., Th., 3:00–4:00. 24 hours. .2Mj. Summer, Associate Clinical Professor Reeder; Autumn and Winter, Associate Clinical Professor Darling; and Spring, Assistant Clinical Professor Allen.

4. Clinical Course on the Eye at the Illinois Charitable Eye and Ear Infirmary.—Prerequisite: courses 1 and 2. Limited to 10 students each. Each Quarter, F., 4:00–6:00. 24 hours. .2Mj. ———. [Not given in 1925–26].

5. Clinical Courses at the Cook County Hospital.—In these courses special attention is given to the relation of the eye to general disease. Prerequisite: courses 1 and 2. Limited to 10 students. 24 hours. .2Mj. Summer, Winter, and Spring, M., Th., 3:00, Dr. Fitzgerald.

6. Normal and Pathological Anatomy and Bacteriology of the Eye.—A course for advanced students and practitioners. Limited to 5 students. Autumn, 3 days each week. Hours to be arranged. Dr. Theobald and Dr. Gamble.

6A. Special Work for Student Assistants in the Dispensary.—Junior or Senior students who have had course 1 may register as follows:

Monday, Thursday	Two students	2:00–4:00
Tuesday, Friday	Two students	2:00–4:00
Wednesday, Saturday	Two students	2:00–4:00

Each Quarter. .4Mj.

This course is the equivalent of courses 2 and 3.

Similar opportunity is afforded at the Cook County Hospital Out-Patient Clinic from 2:00–4:00 by arrangement with Associate Clinical Professor Darling.

GRADUATE COURSE

Opportunity for graduate work is offered to a limited number of physicians desiring to fit themselves for the special practice of Ophthalmology.

The Department can accommodate eight such graduate students, two entering each quarter—January, April, July, and October—and the work must be carried on for a period of at least one year.

It will include courses on the fundamental subjects of anatomy, embryology, physiology, neurology, and physics as they pertain to the eye, and this work will be done in the laboratories of the University of Chicago in the forenoons of the first three quarters.

The afternoons will be spent in the study of clinical subjects and in the practical work of the Dispensary, the student engaging in this work under the guidance of the instructors.

Detailed description of the character of these courses is given in a special *Bulletin* which will be mailed on request.

THE DEPARTMENT OF DERMATOLOGY

RUSH MEDICAL COLLEGE

OFFICERS OF INSTRUCTION

Oliver Samuel Ormsby, M.D., Clinical Professor and Chairman of the Department of Dermatology.

Ernest Lewis McEwen, S.M., M.D., Associate Clinical Professor of Dermatology.

Edward Allen Oliver, M.D., Assistant Clinical Professor of Dermatology.

James Herbert Mitchell, M.D., Assistant Clinical Professor of Dermatology.

John Frank Waugh, M.D., Clinical Instructor in Dermatology.

Clark Wylie Finnerud, M.D., Clinical Instructor in Dermatology.

Michael Higgins Ebert, M.D., Clinical Associate in Dermatology.

Marion Shelley Fink, M.D., Clinical Assistant in Dermatology.

Frederick R. Schmidt, M.D., Clinical Assistant in Dermatology.

Orland F. Montgomery, M.D., Research Fellow in Dermatology (James Nevins Hyde Memorial Fund).

INTRODUCTORY

A total of 1 Major is required in Dermatology—for graduation. Instruction is given by clinical teaching in the College, the Dispensary, and the Cook County Hospital by recitations and by demonstrations to small classes of clinical, bacteriologic, and pathologic phenomena.

Instruction in this Department is supplemented by ample use of the large collection of dermatological plates, atlases, and photographs, also by the use of the Baretta Models.

COURSES OF INSTRUCTION

1. Dermatology and Syphilis.—A recitation and conference course given to the class in sections not exceeding 25. Tu., F., 4:00–5:00. 24 hours. .4Mj. Summer, Dr. Ebert; Autumn, Assistant Clinical Professor Mitchell; Winter, Dr. Finnerud; Spring, Assistant Clinical Professor Oliver.

2. Clinical Courses.—A clinical course on the subject of Dermatology and Syphilis. The clinic has been conducted in the College for many years and is attended by a large number of out-patients of both sexes and all ages. Each Quarter throughout the year. Tu., F., 2:00–4:00. 48 hours. .4Mj. Autumn and Spring, Clinical Professor Ormsby; Summer, Assistant Clinical Professor Mitchell; Winter, Associate Clinical Professor McEwen.

3. Clinical Course in the Central Free Dispensary.—A clinical course given to the class in small sections in the departments of dermatology and syphilis in the Central Free Dispensary. The student is here brought in personal contact with patients and required to examine and prescribe for them as in private practice. Limited to 10 students in each section. Each term throughout the year, 2:00–4:00. 24 hours. .2Mj. Sec. *a*, M., Th., Dr. Waugh; sec. *c*, W., Sat., Autumn, Spring, Associate Clinical Professor McEwen; Summer, Winter, Dr. Finnerud.

4. Student Assistant in the Dispensary.—Provision is made for three students to assist in the Dispensary each Quarter, one M. and Th., one Tu. and F., and one W. and Sat. 48 hours. .4Mj.

4A. Course in Syphilis.—Work as student assistant in the Evening Clinic in the Central Free Dispensary. Opportunity is afforded for special training in the methods of diagnosis and treatment of syphilis. Prerequisite: course 1. Limited to 2 students. Each Quarter, Tu., F., 7:00–9:00. .4Mj. Assistant Clinical Professor Oliver.

5. Syphilis.—A clinical and lecture course comprising a general survey of the subject of syphilis. Fri., 4:00. 12 hours. .2Mj. Autumn, Winter, and Spring, Associate Clinical Professor McEwen.

5A. Cook County Hospital Clinics.—A clinic and conference course at the Cook County Hospital on diseases of the skin and syphilis. M., 2:00–4:00. .2Mj. Autumn and Spring, Assistant Clinical Professor Oliver; Summer and Winter, Dr. Finnerud.

7. Serology and Therapeutics of Syphilis.—A laboratory course in the technique of the Wassermann test of the blood and spinal fluid and in the intravenous and intramuscular injections of arsenical and mercurial preparations. Limited to 6 students. First Term, 8:00–10:00, twice weekly; Second Term, 2:00–4:00, twice weekly. .2Mj. Days to be arranged. Autumn, Winter, and Spring, Dr. Ebert.

8. Histopathology and Bacteriology of the Skin.—A practical laboratory course arranged for students desiring special instruction in this department. 4 hours weekly, Autumn and Spring. Hours to be arranged. Dr. Finnerud.

GRADUATE COURSE IN DERMATOLOGY AND SYPHILIS

A limited number of graduates will be accepted for work in Dermatology and Syphilis. For the present the course may be for either one or two years. Applicants must be approved by a department committee. For particulars apply to Clinical Professor Oliver S. Ormsby.

FEES AND EXPENSES

FEES FOR MATRICULATION, TUITION, APPARATUS AND DEPOSITS

1. *Matriculation fee.*—(*a*) The matriculation fee is $10.00, and is required of every student on entrance to the University. It is payable but once.

2. *Tuition.*—(*a*) The tuition fee in the School of Medicine of the Ogden Graduate School of Science is $90.00 per quarter, including laboratory fees, or $30.00 per major. (*b*) In Rush Medical College the tuition fee is $90.00 per quarter.

(*c*) The graduation fee is $10.00.

(*d*) All tuition and laboratory fees are due and payable on or before the *first* day of *each quarter*. All fees are payable to the Cashier.

Registration is not complete until all University bills are paid. Those who fail to meet this obligation within the first five days of the quarter are not regarded as members of the University. After the fifth day (second day in Rush Medical College), to secure membership in the University, the consent of the Dean and the payment of a fee of $5.00 for late registration will be required.

3. *Special fees. A. In the Graduate School of Medicine at the University. Laboratory apparatus and supplies.*—(*a*) A compound microscope is required for most of the Medical Courses. Every student is strongly advised to purchase a good microscope, with an immersion lens, in order that he may become familiar with the same instrument which he will use after his graduation. A student not possessing a microscope may rent one from the Laboratory Supply Department at a cost of $2.00 per quarter for a compound microscope and $1.50 additional for an immersion lens. (*b*) Every student taking a course in the Department of Chemistry is required to obtain and deposit with the Curator a $5.00 coupon ticket to be used in the purchase of necessary apparatus and materials for the laboratory work. A new coupon ticket must be deposited on request of the Curator when materials used and breakage make the replenishment of the deposit necessary, balance of $2.50 being required at all times. No charges are made against these tickets without the knowledge of the student, and the unexpended balance is refunded to the student when he leaves the Department. (*c*) A student taking a course in any of the biological departments is required to obtain from the cashier a $5.00 coupon ticket for the purchase of apparatus used and materials required in the course. When more than one biological course is taken, a coupon ticket for $10.00 must be purchased by the student. Such coupon ticket must be surrendered and refund of balance due claimed at the end of each quarter, and new coupon ticket be purchased for the succeeding quarter. If, during the quarter, the balance for a single course is reduced to $1.00 or, for more than one course, to $2.00, further deposit of a $5.00 coupon ticket will be demanded by the Laboratory Supply Department. The balance mentioned is intended to serve as a deposit against avoidable loss, breakage, or damage in the laboratories. Each student will be charged for damage or loss for which he is individually responsible and for his pro rata share of damage or loss the responsibility for which cannot be individually located. The unexpended balance of each biological coupon ticket is refunded to the student shortly after the end of the quarter. (*d*) In addition to the above-mentioned tickets, students registered for courses in Physiology and Physiological Chemistry are required to pro-

vide themselves with special supply and breakage tickets, a $5.00 ticket for each course. (*e*) A student may procure a skeleton from the Osteological Store Room on payment of a deposit of $50.00, or parts of a skeleton on payment of special deposits. The deposit will be refunded when the skeleton (or part) is returned uninjured. Credit for courses in Gross Anatomy will not be reported until all material drawn from the Osteological Store Room is returned. The necessary textbooks may be purchased at the University of Chicago Bookstore in Ellis Hall.

B. In Rush Medical College.—(1) A compound microscope is required for some of the clinical courses. *Every student is strongly advised to purchase a good microscope, with an immersion lens, in order that he may become familiar with the same instrument which he will use after his graduation.* Students not possessing a microscope may rent one from the College at a cost of $2.00 per quarter for a compound microscope and $1.50 additional for an immersion lens. Each student is required to secure, for use in the clinical laboratories, a hemacytometer (cost, about $16.00) and a hemoglobinometer. (2) A fee of $20.00 is paid for the out-patient obstetrical work. (3) No student can be assigned to any college work until his fees are paid. (4) The annual ticket for the County Hospital is $5.00, which is procured from the Warden at the Hospital.

Deposit.—A deposit of $5.00 is required from each student to cover the cost of unnecessary damage in the College buildings and of avoidable loss and breakage in the laboratories. Deductions will be made from this deposit to cover the cost of articles not returned or of damage to College property. Each student will be charged for damage or loss for which he is individually responsible and for his pro rata share of damage or loss, the responsibility for which cannot be individually located. The deposit must be made on entering the College.

ROOMS, BOARD, AND GENERAL EXPENSES

I. AT THE UNIVERSITY

UNIVERSITY RESIDENCE HALLS

The University has twelve residence halls for students, seven for women and five for men. Rooms in these halls rent for from $40 to $85 a quarter. The rental includes the cost of heat, light, and care, except that in Drexel House (a residence hall for women) the rooms are cared for by the occupants. Rooms are for the most part single, but a few in each Hall may be occupied by two students. Application for rooms should be made to the University Cashier, who will, on request, send a diagram of the Halls showing prices of rooms. Each room is furnished with study-table, chairs, bookcase, dresser, mirror, rug, bedstead, mattress, and bedding, with the exception that in Hitchcock Hall occupants are required to furnish rugs, and in Drexel House occupants furnish bedding. Towels must be furnished by the students. Rooms may not be subrented, nor can exchange or transfer of rooms be made except by permission of the Cashier.

A University House is organized in each Hall; each House has a Head, appointed by the President of the University, and a House Committee, elected by the members; also a House Counselor, selected from the Faculties of the University by the members of the House. The membership of the House is determined by election, and each House is self-governing under the general control of the University.

Six of the halls for women (Beecher, Kelly, Foster, Green, Greenwood, and Kenwood) have separate dining-rooms and parlors. The cost of board in these halls is $7.00

per week and board for the entire quarter is payable in advance on the opening day. All students living in these halls are required to take their meals there.

An opportunity to share in co-operative housekeeping and thereby to reduce living expenses somewhat is offered at Drexel House, which accommodates sixteen women students who share in the preparation of meals and the care of the House. Room rent for each student is $42.00 a quarter, and the co-operative plan makes the cost of table board considerably less than is possible under other circumstances. Some experience in housekeeping and adaptability to group life are necessary. Correspondence with reference to rooms in Drexel House should be addressed to the Director of the Housing Bureau.

HOUSING ACCOMMODATIONS—UNIVERSITY NEIGHBORHOOD

The University of Chicago maintains its Housing Bureau in order to assist students in finding the best accommodations obtainable in the University neighborhood. All rooms on the approved list have been inspected in accordance with certain standards. One month before the opening of each quarter the Housing Bureau will prepare an up-to-date statement with regard to housing for that quarter, and this special bulletin will be sent to any who request it.

Householders who list rooms with the Bureau must agree to rent exclusively to men or exclusively to women. Married couples may be received in houses renting either to men or to women. A reception room for at least two evenings a week must be provided for women students. No rooms on small inclosed courts are accepted. Students are asked to co-operate with the University by insisting on these requirements even if they do not engage their rooms through the Housing Bureau.

It is advisable for students to reach the University three or four days before the opening of the quarter in order that they may become established in satisfactory living quarters before University work begins. Renting by mail is unsatisfactory, as students should make personal inspection before engaging rooms, and lists of rooms are not sent out by mail by the Housing Bureau.

Single furnished rooms off the Quadrangles range in price from $60.00 to $120.00 a quarter. Furnished rooms for two range in price from $84.00 to $150.00, and as a rule there are more double rooms than single rooms available. A room with good outside light and air, drop study light, study table, ample closet space, and a comfortable bed will probably cost at least $72.00 a quarter.

Desirable furnished rooms for light housekeeping are rather difficult to find. They range in price from $40.00 to $85.00 a month. As a rule these are in old apartments subdivided for this purpose and sometimes lack adequate facilities. Occasionally rooms with kitchen privileges may be secured at the regular rates with an additional charge of about $12.00 a quarter.

Furnished houses or apartments of from four to ten rooms vary in price from $75.00 to $150.00 a month. In the University neighborhood there are some two- and three-room apartments which rent, unfurnished, for $70.00 a month or more. The Housing Bureau lists only furnished houses and apartments.

There are very few places where board may be obtained with room. It is customary for students to take their meals at the University Commons or at restaurants in the neighborhood. The University Commons provides cafeteria service for men at Hutchinson Hall and for women at Ida Noyes Hall. Not less than $7.00 a week should be allowed for table board.

ESTIMATE OF EXPENSES

The following table will enable the student to form an estimate of the quarterly expenses, exclusive of tuition and laboratory fees, which are common to all students in the University.

	Low	Average	Liberal
Rent and care of room	$ 48	$ 75	$100
Board	84	100	115
Laundry and pressing	15	40	50
Textbooks and supplies	13	25	40
Incidentals	15	35	55
Total	$175	$275	$360

II. IN THE VICINITY OF RUSH MEDICAL COLLEGE

Board and lodging.—Rooms may be obtained in the vicinity of the College at from $5.00 to $7.00 per week. Day board may be had at from $8.00 to $11.00 per week. Board and room together may be obtained at from $12.00 to $15.00 per week. A Bureau of Information is maintained at the College by the Y.M.C.A., to which students may apply for directions as to desirable board and lodging.

Books and instruments.—The average annual cost of the required books and instruments varies from $50.00 to $80.00.

The following table will furnish an estimate of the expenses of a student for each year at Rush Medical College:

	Lowest	Average	Liberal
Tuition for each year	$270.00	$270.00	$270.00
Board and room	350.00	450.00	550.00
Laundry	40.00	60.00	75.00
Books and instruments	50.00	65.00	80.00
Incidental expenses	60.00	100.00	140.00
Total	$780.00	$945.00	$1,115.00

DOCTORS OF PHILOSOPHY AS GUESTS OF THE UNIVERSITY

The President of the University, on recommendation of a Head of a Department, will welcome Doctors of Philosophy of the University of Chicago as well as of other universities as guests of the University, with the privilege of attending seminars and of carrying on research in the laboratories and libraries. There will be no charge except for laboratory supplies and a nominal laboratory fee for laboratory work. Arrangements should be made in advance with the President.

FELLOWSHIPS AND OTHER AIDS

FELLOWSHIPS

Fellowships are awarded annually by the President, upon the recommendation of the Deans of the Graduate Schools and the nomination of particular departments, to graduate students who desire to pursue advanced work in some special line.

Applications for Fellowships.—Applications for Fellowships should be addressed to the Deans of the Graduate Schools of Arts, Literature, and Science, *and should be in their hands on or before March 1.*

Appointments to Fellowships.—

a) *Date.*—The annual appointments to Fellowships are made April 1. Appointees are given until April 15 to accept or decline. A fellowship is available for any three of the four quarters, beginning with the Summer Quarter, following the date of appointment.

b) *Attainments required.*—The candidate must have attained proficiency in some department. In general, he should have spent at least one year in resident study after receiving his Bachelor's degree. In making the appointment special weight is given to dissertations indicating the candidate's ability to conduct original investigation.

Quarterly Reports.—Each Fellow makes a written report to the Dean at the beginning of each quarter. This report outlines his work as a student, and the work assigned to him as an officer of the University for the current quarter, and is indorsed by the head of the department. The report blanks may be procured at the office of the Deans of the Graduate Schools of Arts, Literature, and Science.

A. UNIVERSITY FELLOWSHIP

Appropriations are made annually from the general funds of the University for the maintenance of Fellowships in the Graduate Schools of Arts, Literature, and Science. These Fellowships at present range in value from $180, the tuition fees of a graduate student for three quarters, to an amount $600 in excess of those fees.

The University asks of each of these Fellows a modicum of service, consisting of work (*a*) as an instructor; (*b*) as an assistant in reading examination papers; (*c*) as an assistant on a University journal; or (*d*) as an assistant in one of the departmental laboratories, museums, or libraries. In no case is a Fellow expected to devote so much time to the work here indicated as to interfere seriously with his own study. Fellows will not engage in outside work for compensation, unless by permission of the President.

B. ENDOWED AND ANNUAL FELLOWSHIPS

In addition to the regular University Fellowships mentioned, there are special Fellowships offered by individuals. These vary somewhat in number and amount from year to year. At present they are as follows:

1. *The Joseph B. Loewenthal Fellowship in Chemistry*, endowed by Mr. Berthold Loewenthal, of Chicago, as a memorial of his son, Joseph B. Loewenthal. It yields $400 to the incumbent annually appointed, and is awarded on the nomination of the Department of Chemistry and the approval of the President of the University.

2. *The Gustavus F. Swift Fellowship in Chemistry*, endowed by Mrs. Gustavus F. Swift, Chicago, as a memorial of her husband, Gustavus F. Swift. It yields about $920

to the incumbent annually appointed, and is awarded for especial ability in research on the nomination of the Department of Chemistry and the approval of the President of the University.

3. *The Edith Barnard Memorial Fellowship in Chemistry*, established in memory of Dr. Edith Barnard, yields $150 a year, and is awarded by the University, on nomination of the Department of Chemistry and the approval of the President of the University, to some deserving graduate student.

4. *The Home Economics Fellowships*, which yield $600 annually for one or more fellowships in the Department of Home Economics and Household Administration. Candidates should present evidence of graduate work in an institution of high standing. A part of the time of the women awarded these Fellowships is to be spent in research in Home Economics. Awarded by the Chairman of the Department of Home Economics and Household Administration.

C. RESEARCH FELLOWSHIP

1. *The National Research Council Fellowships in Physics and Chemistry*, provided by the Rockefeller Foundation, are awarded by the National Research Council. Fellows may choose the institution in which they desire to pursue research. Applications should be made to the National Research Council, Washington, D.C.

2. *The Mr. and Mrs. Frank G. Logan Fellowships*, endowed by Mr. Frank G. Logan, are available for research in Medicine, Surgery, and Bacteriology and Pathology. Each Fellowship affords an annual stipend of $1,000. On the organization of the Medical School the Research Fellowships in Medicine and in Surgery will be awarded. The Fellowship in Bacteriology and in Pathology is awarded in alternate years. Awarded on the recommendation of the Heads of the respective departments and the approval of the President.

3. *The DuPont Fellowship*, granted by the E. I. du Pont de Nemours Company, is available for the encouragement of research in any field of Chemistry. It is awarded by the Chairman of the Department of Chemistry and yields $750 annually.

4. *The Seymour Common Fellowships*, to be used for scientific research with special reference to preventive medicine and the cause, prevention, and cure of diseases. The candidate must have the qualifications of the degree of M.D. or Ph.D. and must devote his entire time to research. Appointments are made by the President on nomination of the Seymour Coman Research Committee.

5. *The Arthur Lowenstein Research Fellowship*, established in connection with the newly organized Institute of Meat Packing, the results of research to be made available to the entire Meat Packing Industry. The Fellow is to work under the direction of the Chairman of the Department of Hygiene and Bacteriology. Awarded by a joint Administrative Committee of the Institute of Meat Packing and the University of Chicago.

6. *The Laura Thorne Donnelley Fellowship* yields $1,500 annually for a fellowship in the Department of Physiology and is awarded by the Chairman of the Department of Physiology.

D. IN THE MEDICAL SCHOOLS OF THE UNIVERSITY

The Dane Billings Memorial Fellowship in Medicine, founded by Dr. Frank Billings, provides $500 for a fellowship for research in medicine.

The Daniel R. Brower Fellowship in the Department of Medicine (Neurology) yields $250.

The Stanton Abeles Friedberg Fellowship in Laryngology and Otology, established in

1921 as a memorial to her husband by Mrs. Stanton A. Friedberg, yields $460 to a graduate student in the Department of Laryngology and Otology.

The Francis A. Hardy Fellowship in Surgery and Assistant House Surgeonship in the Presbyterian Hospital, established by Mr. Francis A. Hardy, yields $600. It is awarded by the Department of Surgery to a graduate in Medicine.

The Hyde Memorial Fellowship of $1,200 was established in 1912 for the purpose of promoting research in skin diseases and cancer under the direction of the Chairman of the Department of Dermatology.

The Fellowship in Pathology, yielding $600, is awarded on recommendation of the Department of Pathology.

The Nicholas Senn Fellowship in Surgery of $600 is awarded by the Department of Surgery to a graduate in Med cine.

The A. D. Thomson-Bevan Fellowship in Surgery and House Surgeonship in the Presbyterian Hospital, established in 1915 by Mr. A. D. Thomson and Professor A. D. Bevan, yields $500 to a graduate in Medicine and is awarded by the Department of Surgery.

SCHOLARSHIPS, PRIZES, AND OTHER AIDS AND AWARDS

A. SCHOLARSHIPS

I. HONOR SCHOLARSHIPS

Graduate Honor Scholarships.—Scholarships are assigned to students who have completed with honor the work of the Senior College. Each department of the University, with the approval of the Committee on Scholarships, has the privilege of naming a student who is for that year the honor student of the Senior College in that department, and to this student there is given a scholarship yielding in each case a sum equal to the University tuition fees for three quarters, provided the student continues his studies in the Graduate Schools. The assignments are made in the Spring Quarter, and in no case does a scholarship continue beyond the end of the Spring Quarter next following the date of assignment.

II. ENDOWED SCHOLARSHIPS

The Mr. and Mrs. William N. Eisendrath Scholarships, endowed by the children of Mr. and Mrs. William N. Eisendrath, yield about $325 annually, to be awarded to undergraduate or graduate students for their maintenance, aid, or tuition fees.

The La Verne Noyes Foundation, established July 5, 1918, by the gift of Mr. La Verne Noyes, provides, in the Colleges and in the Graduate and Professional Schools, tuition scholarships for deserving students who (1) shall themselves have served in the Army or Navy of the United States in the war for liberty into which the Republic entered on April 6, 1917, providing that such service was terminated by honorable discharge; or (2) shall be descendants by blood of anyone in service in the Army or Navy of the United States who served in said war; or (3) shall be descendants by blood of anyone who served in the Army or Navy of the United States in said war, provided that such service was terminated by an honorable death or an honorable discharge. Application should be made to the chairman of the Committee on La Verne Noyes Scholarships.

The Henry Strong Scholarships, provided for under the will of General Henry

Strong, offer aid to students possessing not only zeal for scholarship but also character and those traits tending to leadership.

The Talcott Scholarships, endowed by Mr. William A. Talcott, of Rockford, Illinois, provides tuition fees to the amount of $600 per year. This fund is reserved for graduate students, preferably graduates of Rockford College.

The Sydney Walker III Scholarship in Physiology, established by Dr. Sydney Walker, Jr., in memory of his son, yields $250 annually. The nomination is made by the Department of Physiology on the basis of ability and promise in research, and the holder is required to devote the major part of his time to research in Physiology.

III. IN THE MEDICAL SCHOOLS

1. The *E. Fletcher Ingals, Jr., Scholarship in Laryngology and Otology*, yielding $250 annually, is awarded to a physician who is seeking to qualify himself for the practice of laryngology and otology. Opportunity is afforded the holder of this scholarship for advanced work and clinical training. Awarded in 1926–27 to Dr. Richard W. Watkins.

2. The *La Verne Noyes Scholarships*, fifty in number, are granted each year to students in the clinical years who served in the world-war. Application should be made to the Committee on La Verne Noyes Scholarships in Rush Medical College.

HOSPITAL INTERNES

Positions as internes, by appointment or through a competitive examination held by the respective hospital staffs, are open each spring to graduates of Rush Medical College in the following Chicago hospitals: Presbyterian, Children's Memorial, Home for Destitute Crippled Children, Cook County, Michael Reese, St. Joseph's, St. Luke's, Augustana, Alexian Brothers', Passavant, Chicago Policlinic, Norwegian-American, Illinois Charitable Eye and Ear Infirmary, St. Anthony's, Swedish, Chicago Lying-in, and others, and in a much larger list of institutions outside of the city of Chicago which make appointments from the students of the Senior class in Rush Medical College. The occupants of these positions receive their board and lodging and acquire experience in practical Medicine and Surgery.

B. PRIZES

The John Billings Fiske Prize in Poetry, established by Horace Spencer Fiske as a memorial to his father. The prize of approximately $50 is to be awarded annually to the graduate or undergraduate student in any division of the University who presents a poem adjudged best by the head of the English Department, a leading American poet, and a leading American critic.

The Howard T. Ricketts Prize, about $250, is awarded on the third day of May to a student of the University of Chicago presenting the best results in research in Pathology or Bacteriology. Awarded in 1925 to Florence Barbara Seibert.

The Rosenberger Medal, founded by Mr. and Mrs. Jesse L. Rosenberger, is awarded by the University of Chicago in recognition of achievement through research, in authorship, in invention, for discovery, for unusual public service, or for anything deemed of great benefit to humanity. If at any time it is thought best, the awards may be restricted preferentially, or even wholly, to persons connected with the University of Chicago and its various departments, including all the faculty and other instructors, all the students, graduate and undergraduate, and all the graduates both of the University and of all the departments thereof.

PRIZES IN RUSH MEDICAL COLLEGE

The Benjamin Rush Prize.—A medal and the sum of $50 is given by the Faculty at each commencement to that member of the graduating class who passes the highest examination in every department of Medicine represented that year in the examination for the degree. Awarded in 1926 to ALEXANDER EICHEL BRUNSCHWIG.

The Daniel Brainard Prize.—A medal is annually given by the Faculty to the student who makes and presents to the College Museum the best accepted dissection in Surgical Anatomy. Awarded in 1926 to RALPH EMERSON JENKINS LEMASTER.

The Freer Prizes.—These prizes are derived from the income of a fund presented to the College by the late Nathan M. Freer, of the Board of Trustees, as a memorial to the names of two honored members of his family long identified with the highest interests of this institution.

*The J. W. FREER Medal and the sum of $50 are awarded as a first prize to that member of the Junior or Senior class who presents the best dissertation involving original investigation on the part of the student. A second prize of $25 is awarded to the next successful competitor. The dissertations must be submitted to the Dean of Rush Medical College on or before April 1, 1925.

First prize awarded in 1926 to WALTER RAYMOND PENDLETON.

Second prize not awarded in 1926.

*The L. C. FREER Medal and the sum of $50 are offered as a first prize to that member of the Freshman or Sophomore class who presents the best dissertation involving investigation on the part of the student. A second prize of $25 will be awarded to the next most successful of the competitors. *This prize will be competed for by students in the medical courses of the University.* The dissertation must be placed in the hands of the Dean by April 1, 1927.

First prize—not awarded.

Second prize—not awarded.

The De Laskie Miller Prize given by his daughter, Mrs. C. C. Curtiss, for the best work in the department of Obstetrics and Gynecology, was awarded in 1926 to Helen Catherine Hayden.

The Henry M. Lyman Prize.—In memory of Henry M. Lyman, who for many years devoted much of his best energies and his unusual ability to the upbuilding of Rush Medical College, and who served successfully as Professor of Physiology and Neurology and Professor of Medicine, and who was later Dean of the Faculty, a fund has been created by his children, the proceeds of which, amounting to $25 a year, will be offered as a prize to the member of the Junior or Senior class who shall present the best dissertation on a topic connected with internal medicine. This dissertation must include the results of original laboratory or ward work or of personal clinical observation. Before the work is undertaken by the student the Head of the Department of Medicine should be consulted as to the choice of subject and other details.

Not awarded in 1926.

The Howard T. Ricketts Prize.—In memory of Dr. Howard Taylor Ricketts, at one time a member of the Department of Pathology, who died of typhus fever,

* *Rules governing the award of the Freer medals.*—(1) The candidate must present his dissertation in typewritten form. (2) Each candidate may present but one dissertation. (3) As the purpose of the medals is to stimulate research, only those dissertations will be considered that have been written in competition for the medal. This will exclude those published previous to their presentation to the committee and those that were written for a degree. (4) Applicable to the J. W. Freer Medal only. Only those dissertations that are submitted by bona fide Juniors and Seniors will be considered. Students acting as assistants to instructors and receiving compensation therefor cannot compete for the prize.

while investigating that disease, in the City of Mexico, May 3, 1910, this Department has established a prize in Dermatology. This prize, of the value of $25, will be awarded annually to the student presenting the best dissertation embodying the results of original investigation on some topic related to Dermatology.

Awarded in 1926 to GALE MONROE DACK.

C. UNIVERSITY SERVICE

I. DEPARTMENTAL SERVICE

Graduate.—A limited number of assignments to service, yielding a part or all of the tuition fees for three quarters, are available for graduate students of attainment and promise. This service is usually rendered in the department in which the student is doing the major part of his work. Students in departmental service pay their tuition fees in cash at the beginning of each quarter. At the close of the quarter they receive a cash payment for the amount of the service if it has been satisfactorily rendered.

Assignments of this class are awarded preferably to students who desire to work in a special department rather than to those who desire to pursue general courses. Application should be made to the Deans of the Graduate Schools of Arts, Literature, and Science.

II. LIBRARY SERVICE

Applicants for positions in Library service are appointed to service by the Libraries. Students holding such appointments must maintain a grade of academic work satisfactory to their Deans and of service satisfactory to the Libraries. Such students are required to pay their fees in cash at the office of the Cashier within the first five days of the quarter. For whatever service they may satisfactorily render they will be paid in cash at the end of the quarter.

III. MISCELLANEOUS SERVICE

Other forms of student service are: (*a*) messenger service at the Information Office, applications for which should be addressed to the Cashier; (*b*) service in the University Choirs, applications for which should be addressed to the Director of the University Choirs; (*c*) service in the University Band, applications for which should be addressed to the Director of the University Band; (*d*) service in the Commons, the compensation being furnished in board. Inquiries with regard to this service should be addressed to the Director of the Commons; (*e*) temporary stenographic or clerical service for members of the Faculty or administrative officers, and occasionally special service in the laboratories. When such opportunities occur, notices are posted on the bulletin board in front of Cobb Lecture Hall, and detailed information is obtainable at the Employment Bureau.

IV. OUTSIDE EMPLOYMENT

The University maintains an Employment Bureau through which many kinds of work are found for students who are compelled to depend in whole or in part upon their own resources.

D. LOAN FUNDS

From funds created by friends of the University loans are made to many students of worth and promise who need temporary aid. These funds are limited and are usually exhausted early in the academic year.

A special circular entitled *Awards and Aids* will be sent on request. It gives details concerning all the forms of aid, routine of application, etc.

The Clara M. Coit Loan Fund for Medical Students is established to aid needy students who give promise of unusual service in medicine. Interest is charged at the rate of 4 per cent. Application should be made to the Dean of Medical Students.

LIBRARIES, LABORATORIES, AND MUSEUMS

A. THE LIBRARIES

The Libraries of the University include the General Library and the Departmental Libraries, including the Library of Rush Medical College.

The General Library is a reference and circulating library and is open to students in all departments of the University. Students who have matriculated and paid their library fees may take out at one time six volumes from the General Library and other libraries open to circulation, but not more than three from any one library. These may be kept two weeks, with privilege of extension of loan in special cases. The Library is open week days from 8:00 A.M. to 10:00 P.M. (Saturday, 8:00 A.M. to 6:00 P.M.), holidays and vacations excepted. In the latter it is open from 9:00 A.M. to 1:00 P.M. daily.

The Library of the School of Education is open to the use of all members of the University. It is open each week day from 8:00 A.M. to 10:00 P.M. except Saturday, when it closes at 4:00 P.M. Books may be drawn for two weeks.

The Library of the Divinity School, the Geology and Geography Library, and the Classical Library are administered under the same rules as the General Library.

The Law Library is conducted as a reference library, chiefly for the use of law students, but open to other members of the University. It is open week days from 8:00 A.M. to 10:00 P.M. (Saturday, 8:00 A.M. to 6:00 P.M.).

The Departmental Libraries are primarily for the use of advanced students in the respective departments.

The Libraries contain at the present time over 700,000 volumes bound and catalogued. They receive 4,143 current periodical publications, including in part the transactions and proceedings of learned societies. Technical periodicals are, as a rule, found in the Departmental Libraries.

The Library of Rush Medical College contains 25,613 volumes, 4,827 pamphlets, 15,359 reprints, and files of all the leading medical journals in English, German, and French. During the last college year the library had a daily average attendance of 197 students.

B. THE LABORATORIES

The Kent Chemical Laboratory and the Ryerson Physical Laboratory contain rooms for special research, small laboratories for work of investigation, large laboratories for general instruction, lecture-rooms, classrooms, library, museum, and offices.

The Hull Biological Laboratories are a group of four buildings devoted to the study of the anatomical, botanical, physiological, and zoological sciences. The Whitman Laboratory of Experimental Zoölogy, the gift of Professor and Mrs. Frank R. Lillie, affords opportunity for research work in this department. New laboratory buildings for Physiology, Physiological Chemistry, and Pharmacology are practically completed and will afford ample opportunity for work in those departments. The new hospital with clinics for medicine and surgery, and with new laboratories for Pathology closely associated with it is nearing completion.

LABORATORIES AT RUSH MEDICAL COLLEGE

THE RAWSON CLINICAL LABORATORY was originally made possible through the generous gift of $300,000 by Frederick H. Rawson, president of the Union Trust Company. It has been erected at the northwestern corner of South Wood and Harrison streets on the ground formerly occupied by the old Rush Clinical Building. It covers an area approximately 90 by 100 feet and is five stories in height. Connections have been made with Senn Hall on all floors, and with the Presbyterian Hospital. The

building houses the administration offices of the College and the large medical library and special Faculty rooms on the first floor. The Departments of Occupational Therapy, Hydrotherapy, locker-rooms and restrooms, and the library workroom are in the basement.

It is planned that the Department of Occupational Therapy will establish contact with the industries of Chicago and vicinity for the purpose of training and placing in positions of employment persons suffering from various physical handicaps.

The second, third, and fourth floors are devoted to various departments of the Central Free Dispensary, classrooms, and laboratories.

On the fifth floor is the Department of Pathology, housed in the Norman Bridge Laboratories of Pathology. Dr. and Mrs. Norman Bridge, of Los Angeles, contributed $100,000 in order to enable the University to build the fifth story of this building.

The building is so constructed that two stories may eventually be added to it to meet the increasing needs of the Rush Postgraduate School.

Senn Hall, erected through the munificence of the late Professor Senn and other members of the Faculty, adjoins the Clinical Building on the east. It covers a ground space of 40 by 90 feet, is eight stories in height (including the basement), and of absolutely fireproof construction. The basement and first three floors, affording over 10,000 square feet of floor space, are devoted to the dispensary and the clinical teaching connected therewith. In 1923–24 patients made over 100,000 visits to the dispensary and 19,000 new patients were received. The fourth and fifth floors are occupied by clinical laboratories and conference rooms. The remaining two stories contain two surgical and medical amphitheaters, seating about 140 each, with necessary waiting and preparation rooms.

The Laboratory Building, on the south side of Harrison Street, is 100 by 45 feet in area and six stories in height (including basement). This building provides facilities for research and for instruction in Operative Surgery, Surgical Anatomy, Pharmacology, and Therapeutics.

HOSPITALS

The Albert Merritt Billings Memorial Hospital on the University Quadrangles is under construction.

The Presbyterian Hospital with 430 beds and over 11,000 admissions per year adjoins Rush Medical College and is connected with it. Close co-operation is maintained between hospital and college, and opportunity is afforded students of studying patients in the wards.

ATTENDING STAFF OF THE PRESBYTERIAN HOSPITAL

MEDICINE

Consulting Physicians: Drs. Frank Billings, John M. Dodson, James B. Herrick, John A. Robison.

Attending Physicians: Drs. Ernest B. Irons, Wilber R. Post, Rollin T. Woodyatt, Ralph C. Brown, George F. Dick.

Associate Attending Physicians: Drs. James M. Washburn, Theodore Tieken, Samuel R. Slaymaker, B. McPherson Linnell, Donald P. Abbott, James R. Greer, William A. Thomas, Lee C. Gatewood.

Assistant Attending Physicians: Drs. Howard M. Sheaff, Frank B. Kelly,

James B. Eyerly, Arthur R. Colwell, Homer K. Nicoll, William G. Hibbs, Edward J. Stieglitz, Charles M. Bacon, Harry Huber, Emmet B. Bay.

Resident Physician: Dr. David T. Proctor.

DISEASES OF CHILDREN

Attending Physician: Dr. Clifford G. Grulee.

Associate Attending Physician: Dr. Arthur H. Parmelee.

Assistant Attending Physicians: Drs. John A. Gardiner, Cecil T. Heidel, Charles K. Stulik.

PSYCHIATRY AND NEUROLOGY

Attending Physicians: Drs. Thor Rothstein, Peter Bassoe.

Associate Attending Physician: Dr. James C. Gill.

Assistant Attending Physicians: Drs. Loren W. Avery, Josephine E. Young.

SURGERY

Consulting Surgeon: Dr. William T. Belfield.

Attending Surgeons: Drs. Arthur D. Bevan, Dallas B. Phemister.

Associate Attending Surgeons: Drs. Carl B. Davis, Vernon C. David, Kellogg Speed, Gatewood, Charles A. Parker (Orthopedic Surgery), Frederick B. Moorehead (Oral Surgery), Herman L. Kretschmer, Robert H. Herbst (Urology).

Assistant Attending Surgeons: Drs. Albert H. Montgomery, Edwin M. Miller, Golder L. McWhorter, Hillier L. Baker, Francis B. Straus, George H. Jackson, Jr., Harry A. Oberhelman, William J. Gallagher.

Anaesthetist: Dr. Isabelle Herb.

Assistant Anaesthetist: Drs. Mary Lyons, Alice McNeal.

Roentgenologist: Dr. Cassie Bell Rose.

Resident Surgeons: Drs. Edgar C. Turner, Randolph F. Olmsted.

OBSTETRICS AND GYNECOLOGY

Attending Obstetrician and Gynecologist: Dr. Noble S. Heaney.

Associate Obstetrician and Gynecologist: Dr. Carey Culbertson.

Assistant Attending Obstetricians and Gynecologists: Drs. Aaron E. Kanter, Fiske Jones, Edward Allen, Kathleen Harrington.

LARYNGOLOGY AND OTOLOGY

Attending Laryngologist and Otologist: Dr. George E. Shambaugh.

Associate Attending Laryngologist and Otologist: Dr. Daniel B. Hayden.

Assistant Attending Laryngologists and Otologists: Drs. George A. Torrison, Thomas W. Lewis, Edwin McGinnis, Jacob W. Holderman.

Resident Laryngologist and Otologist: Richard W. Watkins.

OPHTHALMOLOGY

Attending Ophthalmologist: Dr. William H. Wilder.

Assistant Attending Ophthalmologists: Drs. John B. Ellis, Charles G. Darling, William G. Reeder, Thomas D. Allen, Earle B. Fowler, Herman P. Davison, James P. Fitzgerald.

DERMATOLOGY

Attending Dermatologist: Dr. Oliver S. Ormsby.

Assistant Attending Dermatologists: Drs. Edward A. Oliver, James H. Mitchell, J. Frank Waugh, Michael H. Ebert, Ernest L. McEwen.

PATHOLOGY

Attending Pathologist: Dr. Edwin R. LeCount.

Resident Pathologist: Dr. Carl W. Apfelbach.

CHEMIST

Attending Chemist: Dr. Ralph W. Webster.

The Home for Destitute Crippled Children, situated about ½ mile from Rush, has about 100 beds and an out-patient department. Under the contract between the Home and Rush Medical College, the clinical material is made available to the faculty and students of the College for instruction and research. Excellent opportunities are here afforded in Orthopedic Surgery.

STAFF OF THE HOME FOR DESTITUTE CRIPPLED CHILDREN

CONSULTING STAFF

Department of Medicine, Dr. James B. Herrick.
Department of Surgery, Dr. Arthur Dean Bevan.
Department of Pediatrics, Dr. Clifford G. Grulee.
Department of Neurology, Dr. Thor Rothstein.
Department of Ophthalmology, Dr. William H. Wilder.
Department of Nose and Throat, Dr. George E. Shambaugh.
Department of Pathology, Dr. Ludvig Hektoen.
Department of Dermatology, Dr. Oliver S. Ormsby.
Department of Orthopedics, Dr. John Ridlon.

ATTENDING STAFF

Head of Department of Orthopedic Surgery, Dr. Charles A. Parker.
Department of Orthopedic Surgery, Drs. Jacob Myers, Elvin J. Berkheiser.
Department of Medicine, Dr. S. R. Slaymaker.
Department of Pediatrics, Dr. Proctor C. Waldo.
Department of Neurology, Dr. Peter Bassoe.
Department of Ophthalmology, Dr. John B. Ellis.
Department of Nose and Throat, Dr. Daníel B. Hayden.
Department of Dermatology, Dr. E. L. McEwen.
Department of General Surgery, Drs. Dallas B. Phemister, Carl B. Davis.
Department of Kinesitherapy, Dr. Charles O. Carlstrom.
Department of Oral Surgery, Dr. Frederick B. Moorehead.

ASSISTANT ATTENDING STAFF

Department of Orthopedics, Drs. Chas. Pease, L. J. Czija.
Department of Pediatrics, Dr. Eleanor Leslie.
Department of General Surgery, Dr. Francis H. Straus.
Department of Nose and Throat, Dr. Jacob W. Holderman.

Department of Dentistry, Dr. James J. Blaney.
Department of Nutrition, Dr. H. C. Niblack.

The John McCormick Institute for Infectious Diseases with the Durand Hospital is situated a block south of the College. The hospital has about 50 beds for acute infectious diseases, and the students of the College, in small groups, visit the patients as part of the required work. The Institute provides facilities for advanced work and investigation by graduates in Medicine and qualified undergraduates of Rush Medical College.

Director: Dr. Ludvig Hektoen.
Physician: Dr. George G. Weaver.
Consulting Physicians: Drs. E. E. Irons, George F. Dick, Samuel R. Slaymaker.
Consulting Surgeon: Dr. Edwin M. Miller.
Consulting Orthopedist: Dr. Charles A. Parker.
Consulting Otolaryngologist: Dr. George E. Shambaugh.

The Cook County Hospital, which is situated opposite the College, admits over 40,000 patients annually. In this institution are given about forty clinics a week, including all varieties of medical and surgical cases. The facilities for the study of Pathology which are offered at the Cook County Hospital are exceptionally good. Between 700 and 800 necropsies are made annually by Professor Wells and the other pathologists of the hospital. The General Hospital contains 3,000 beds; the new building is to contain 500 children's beds, and the men's wards, to accommodate 500 beds, is now under construction. Records show that 40,000 patients were admitted and treated, 40,000 dispensary cases treated, and 40,000 examined and rejected or given advice (not hospital cases), making a total of 120,000 in one year.

Clinical courses in the Cook County Hospital are offered to the students of Rush Medical College by the following members of the Faculty:

Attending Physicians: Drs. Ellis K. Kerr, Archibald Hoyne, Karl K. Koessler, Lee Connell Gatewood, Walter Hamburger, Arthur Byfield, William J. Quigley, Clarence J. McMullen, Sidney A. Portis, Harry J. Isaacs.
Attending Neurologists: Drs. Sydney Kuh, John Favill.
Attending Pediatrists: Drs. Arthur H. Parmelee, Charles K. Stulik.
Attending Surgeons: Drs. Charles A. Parker (Orthopedic), Vernon C. David, George G. Davis, Paul Oliver, Kellogg Speed, Daniel N. Eisendrath, Roger T. Vaughan, David C. Strauss, and Edward J. Lewis.
Attending Obstetrician: Dr. W. George Lee.
Attending Gynecologist: Drs. Carey Culbertson and Aaron E. Kanter.
Attending Ophthalmologist: Dr. James P. Fitzgerald.
Attending Dermatologists: Drs. Edwin A. Oliver, and Clark W. Finnerud.
Attending Pathologist: Dr. H. G. Wells.

The Country Home for Convalescent Children, at Prince Crossing, Illinois, a few miles west of Chicago, is in affiliation with Rush Medical College. It has for its purpose the care, cure, and education of helpless and crippled children.

ATTENDING STAFF OF THE COUNTRY HOME FOR CONVALESCENT CHILDREN

Orthopedic Surgeons: Drs. Charles A. Parker and Elvin J. Berkheiser.
Consulting Surgeon: Dr. Arthur Dean Bevan.

Consulting Physician: Dr. James B. Herrick.
Laryngologist and Otologist: Dr. Daniel B. Hayden.
Oculist: Dr. Wm. G. Reeder.
Oral Surgeon: Dr. Frederick B. Moorehead.

The Children's Memorial Hospital, 735 Fullerton Avenue affiliated with the University of Chicago, has 176 beds.

ATTENDING STAFF

In Medicine: Dr. Joseph Brenneman, Chief of Staff. Drs. George E. Baxter, Archibald Hoyne, William B. McClure, C. A. Aldrich, N. A. Bachmann, Louis D. Minsk, Franklin J. Corper, Gustav Kaufmann, Sigurd H. Kraft, C. Schott, William R. Whitley, John L. Reichert, Bert I. Beverly, J. C. Coughlin, Beatrice W. Hawkins, Julius Rhodes, A. H. Roler, J. H. Wallace, A. J. Weigen. S. C. Henn, Katherine Mayer, James J. McCarty, Harold A. Rosenbaum, Alvah L. Newcomb.

In Neurology: Dr. Ralph Hamill.

In Dermatology: Dr. E. A. Oliver, Clark W. Finnerud.

In Surgery: Drs. Albert Horr Montgomery, John A. Graham, Edwin M. Miller, Frederick B. Moorehead, E. C. Burkett, Jay Ireland, George Jackson, E. C. McGill.

In Orthopedics: Drs. E. J. Berkheiser, Edson B. Fowler, Fremont A. Chandler.

In Ophthalmology: Drs. Edwin McGinnis, Alfred M. Hall, Richard G. Gamble, W. A. Yeakel.

In Otolaryngology: Drs. John C. Williams, T. C. Galloway, Myron Kahn, Chester H. Lockwood.

In Roentgenology: Dr. C. Johnston Davis.

In Pathology: Dr. William G. Hibbs.

RESIDENT STAFF

Senior Resident: John S. McDavid.
Junior Resident: Norman T. Welford.

St. Joseph's Hospital, 2100 Burling Street, became affiliated with Rush Medical College in 1915. The hospital is conducted by the Sisters of Charity, St. Vincent de Paul, and has 210 beds.

Extra-mural courses.—Through the courtesy of the medical attendants and managing officers of several hospitals and dispensaries within convenient distance of the College extra-mural clinical courses are offered to the students of Rush, in small groups, and the clinical material available for teaching has thus been greatly augmented. Such courses are offered at the West Side Hebrew Dispensary, treating over 30,000 cases annually; at St. Luke's Hospital, with about 2,000 cases annually; at the Illinois Charitable Eye and Ear Infirmary, treating about 1,000 cases; at the Chicago Isolation Hospital; and at St. Anthony's Hospital, with about 100 beds.

ALUMNI ASSOCIATION

The Alumni Association of Rush Medical College, which is part of the University of Chicago Alumni Association, holds yearly meetings. These meetings occur on the date of the Summer Convocation in June. All graduates of the College in good standing are eligible to membership, which can be obtained by the payment of two dollars, the annual dues. The officers for the year ending July 1, 1925, were as follows:

OFFICERS

PRESIDENT ..... RALPH W. WEBSTER, Chicago
FIRST VICE-PRESIDENT ..... CARL B. DAVIS, Chicago
SECOND VICE-PRESIDENT ..... B. J. BILL, Genoa City, Wis.
THIRD VICE-PRESIDENT ..... J. S. KAUFFMAN, Blue Island, Ill.
NECROLOGIST ..... WALTER H. MEENTS, Chicago
TREASURER ..... CARL O. RINDER, Chicago
SECRETARY ..... CHARLES A. PARKER, Chicago
DIRECTORS FOR THREE YEARS ..... S. R. SLAYMAKER, A. A. HAYDEN
DELEGATES APPOINTED TO ALUMNI COUNCIL OF THE UNIVERSITY OF CHICAGO ..... RALPH C. BROWN, GEORGE H. COLEMAN, DALLAS B. PHEMISTER

DIRECTORS

ONE YEAR

J. H. MEYER, '76 ..... La Porte, Ind.
E. H. KENYON, '96 ..... Chicago

TWO YEARS

WILBER E. POST, '03 ..... Chicago

THREE YEARS

SAMUEL R. SLAYMAKER, '92 ..... Chicago
AUSTIN A. HAYDEN, '04 ..... Chicago

DEGREES OF MASTER OF SCIENCE IN THE MEDICAL SCIENCES CONFERRED IN THE SPRING, SUMMER, AUTUMN, AND WINTER QUARTERS, 1925-26

Edmund Henry Droegemueller	Physiology
James Irving Farrell	Physiology
Arthur Newton Ferguson	Anatomy
Manindra Chandra Guha	Physiological Chemistry
Roland Wendell Harrison	Hygiene and Bacteriology
Onis Harrison Horrall	Physiology
Earl Oswel Latimer	Physiology
Clayton Jackson Lundy	Physiology

John Benjamin Nanninga	Physiology
Phillip Folgelson Shapiro	Physiology
James Wallace Shaw	Physiology
Arthur H. Steinhaus	Physiology
Charlotte Truesdell	Physiology
Joseph Adolph Tuta	Physiological Chemistry
Hugh Allen Wyckoff	Hygiene and Bacteriology

DEGREES OF DOCTOR OF MEDICINE CONFERRED IN 1925–26

The degree of Doctor of Medicine was conferred on the following students at the close of the Summer Quarter, September 4, 1925. The students had completed five years of medical work, the fifth year consisting of an acceptable service as an interne in a hospital approved by the Faculty of the College:

Irma Aleshire	St. Francis Hospital, Evanston, Illinois
Virginia Mary Benson	North Chicago Hospital
Guy Edwin Carlson	West Suburban Hospital, Oak Park, Illinois
Howard Everett Crawford	Queen's Hospital, Honolulu, Territory of Hawaii
Terence Thomas Cunningham	St. Joseph's Hospital and Municipal Contagious Hospital
Lemuel Edward Day	Passavant Memorial Hospital and Ravenswood Hospital
Paul Murdock Ellwood	Lane Hospital, San Francisco, California
Adolph Herman Emerson	Gary Hospital, Gary, Indiana
Herbert Frederick Fenwick	Presbyterian Hospital
Ralph Waldo Gerard	Los Angeles General Hospital, Los Angeles, California
Edward Waddy Griffey	Wesley Memorial Hospital
John Maurice Grimes	Wesley Memorial Hospital, Wichita, Kansas
Manuel Emil Lichtenstein	Cook County Hospital
George Thomas Murphy	Highland Park Hospital, Highland Park, Illinois, and Cook County Hospital
Julius Joseph Mussil	Kings County Hospital, Brooklyn, New York
Arthur Theodore George Remmert	Washington Boulevard Hospital
Louis Philip River, Jr.	Presbyterian Hospital
Wilson Stegeman	Santa Barbara Cottage Hospital, Santa Barbara, California
Milton Steinberg	Illinois Central Hospital and Cook County Hospital
Frank F. Wagoner	West Suburban Hospital, Oak Park, Illinois
Marine Ruffner Warden	Norwegian-American Hospital
Richard Watkin Watkins	Presbyterian Hospital
Sol Milton Wolffson	Lutheran American Hospital

At the close of the Autumn Quarter, December 22, 1925:

Charles Edward Anderson	Ravenswood Hospital
Arthur John Atkinson	Presbyterian Hospital
Thomas Addison Baird	Presbyterian Hospital

Edwin Jean Blonder	Cook County Hospital
Phoebe Clover	Ravenswood Hospital
Clifford Clayton Corkill	Wesley Memorial Hospital
William Clarence Doepp	Cook County Hospital
Fred Otto Emil Eggert	St. Luke's Hospital
Margaret Wilson Gerard	Children's Memorial Hospital
John Everett Gordon	Presbyterian Hospital and Municipal Contagious Hospital
Carl Helge Mauritz Janson	Illinois Central Hospital
Eugene Pargny King	St. Louis City Hospital No 2, St. Louis, Missouri
William Frederick Kroener	Durand Hospital and Presbyterian Hospital
Wyant LaMont	Cook County Hospital
Marvin Sigmund Lauer	Los Angeles General Hospital, Los Angeles, California
August Henry Madsen	Ancker Hospital, St. Paul, Minnesota
Charlotte McCarthy	Michael Reese Hospital
Carolyn MacDonald	Cook County Hospital
William Monroe McKay	Presbyterian Hospital
Eloise Parsons	Michael Reese Hospital and Mayo Foundation, Rochester, Minnesota
David Thornton Proctor	Presbyterian Hospital
George John Rukstinat	Presbyterian Hospital
Isaiah Reed Salladay	Municipal Contagious Hospital and West Suburban Hospital, Oak Park, Illinois
Maurice Simkin	Lutheran Memorial Hospital
William Simkin	Lutheran Deaconness Hospital
Otmar Thurlimann	Illinois Central Hospital
Donald Wair	Denver General Hospital, Denver, Colorado
Howard Wakefield	Cook County Hospital

At the close of the Winter Quarter, March 16, 1926:

John Sherman Ashby	Presbyterian Hospital
Jacob Joseph Baratz	Ravenswood Hospital
M. Herbert Barker	Wesley Memorial Hospital
Isadore Pat Bronstein	Michael Reese Hospital
Chauncey Greeley Burke	Roseland Community Hospital and Washington Boulevard Hospital
Roy Arnold Crossman	Highland Park Hospital, Highland Park, Illinois
Joseph Vincent S. Dauksys	Norwegian-American Hospital
Eugene Walter Demaree	Highland Park Hospital, Highland Park, Illinois
Leland Charles Dietsch	Evanston Hospital, Evanston, Illinois
Cecil Fay Dull	Evanston Hospital, Evanston, Illinois
Frank Ralph Guido	Los Angeles General Hospital, Los Angeles, California
Edwin Bertram Gute	Presbyterian Hospital and Milwaukee Hospital, Milwaukee, Wisconsin
Clarence Oliver Heimdal	Evanston Hospital, Evanston, Illinois.
Harry Edward Hickman	St. Joseph's Hospital

Robert Lyndon Holcombe	St. Joseph's Hospital
Louis Bernard Kartoon	Michael Reese Hospital
Ralph Waldo Kirchner	Wesley Memorial Hospital
Myron Wilbur Larsen	Denver General Hospital, Denver, Colorado
Ellen Fook Len Leong	Grace Hospital, New Haven, Connecticut
Norman Leshin	Michael Reese Hospital
Harold Deane Lillibridge	West Suburban Hospital, Oak Park, Illinois
Mark Lucas Loring	Presbyterian Hospital
Mars Laurice Madsen	Queen's Hospital, Honolulu, Territory of Hawaii
Daniel Bartlett MacCallum	Washington Boulevard Hospital
Angus Cameron McDonald	Los Angeles General Hospital, Los Angeles, California
Thomas Ochsner Nuzum	Augustana Hospital and Cook County Hospital
James Timothy O'Hora	St. Joseph's Hospital
Henry Bernard Perlman	Los Angeles General Hospital, Los Angeles, California
Samuel Louis Perzik	Los Angeles General Hospital, Los Angeles, California
Mark Tenney Phy	Wesley Memorial Hospital
Libby Pulsifer	Washington Boulevard Hospital
Margaret Garrett Smythe	North Chicago Hospital
Meyer Jerome Steinberg	Illinois Central Hospital and Cook County Hospital
William McHenry Swickard	Lutheran Deaconess Hospital and Blodgett Memorial Hospital, Detroit, Michigan
Gudmund Geir Thorgrimsen	St. Anthony's de Padua Hospital
Dwight Tedcastle Vandel	St. Joseph's Hospital, Kansas City, Missouri
Virgil Rolla Vanstane	St. Joseph's Hospital

The following students received certificates on the completion of the four years of the Medical Course at the close of the Summer Quarter, September 4, 1925:

Carl Oscar Gotfred Almquist	Norwegian Lutheran Deaconess Hospital
Adelbert R. Callander	Henry Ford Hospital, Detroit, Michigan
Lyman Luther Daines	
George Frederick Christoffer Fasting	Presbyterian Hospital
John Edward Gahringer	Henry Ford Hospital, Detroit, Michigan
Willis Eugene Gouwens	Presbyterian Hospital and Cook County Hospital
Hugh Cornelius Graham	Highland Park Hospital, Highland Park, Illinois
Nevin Huene	Henrotin Hospital
Allan Titsworth Kenyon	Harper Hospital, Detroit, Michigan
Edward Frank Kotershall	St. Alexis Hospital, Cleveland, Ohio
Margarete Meta H. Kunde	Research, Department of Physiology, University of Chicago
Stanley Edward Lawton	Presbyterian Hospital
Moreno Yona Levy	German Evangelical Deaconess Hospital
Mabel Garden Masten	Wisconsin General Hospital, Madison, Wisconsin

Yi Liu Mei	Public Health Work, Johns Hopkins University.
Bryan Lee Mitchell	Evanston Hospital, Evanston, Illinois
Vernon Elmer Leo Mrazek	Cook County Hospital
Harry Joseph McGuire	Hospital of St. Anthony de Padua
Frederick Paine Purdum	Norwegian Lutheran Deaconess Hospital
Archer Chester Sudan	Denver General Hospital, Denver, Colorado
William Leo Waner	St. Francis Hospital, Evanston, Illinois

At the close of the Autumn Quarter, December 22, 1925:

Ivan Columbus Berrey	Presbyterian Hospital
James Robert Doty	Rochester General Hospital, Rochester, N.Y.
Edward Harkless Dunn	St. Luke's Hospital
Leon Jack Goodman	Lutheran Memorial Hospital
Joseph Major Greene	Aurora Hospital, Aurora, Illinois
Samuel Albert Leader	Ravenswood Hospital
Esmond Ray Long	Research, Department of Pathology, University of Chicago
Jeanette Leszczynski Rider	St. Luke's Hospital, Cleveland, Ohio
Charles Edward Shannon	St. Luke's Hospital

At the close of the Winter Quarter, March 16, 1926:

Julius Martin Amberson	Norwegian-American Hospital
Clarence Eugene Applegate	Buffalo City Hospital, Buffalo, New York
George Hubert Artis	Presbyterian Hospital
Clyde Nelson Baker	Los Angeles General Hospital, Los Angeles, California
Raynold Oliver Bassuener	Milwaukee Hospital, Milwaukee, Wisconsin
Harold Fred Beglinger	St. Anthony de Padua Hospital
Burr Charles Boston	St. Luke's Hospital
Julian Minassian Bruner	Los Angeles General Hospital, Los Angeles, California
Alexander Eichel Brunschwig	U.S. Naval Hospital, Washington, D.C.
Ralph Van Carpenter	Denver General Hospital, Denver, Colorado
Washburn Drew Chipman	Los Angeles General Hospital, Los Angeles, California
Francis Marion Close	St. Luke's Hospital, San Francisco, California
Charles Bennett Congdon	U.S. Naval Hospital, Washington, D.C.
Robert Acheson Crawford	Michael Reese Hospital
William John Nixon Davis, Jr.	U.S. Naval Hospital, Brooklyn, New York
Clarissa Elizabeth Devney	St. Francis Hospital, Evanston, Illinois
John Stephen Duncan	
William Elliott	Ravenswood Hospital
James Conrad Ellis	Los Angeles General Hospital, Los Angeles, California
Charles Benjamin Shaffer Evans	Norwegian-American Hospital
John McLaughlin Forney	
Elma May Fry	Baylor Hospital, Dallas, Texas
Harry A. Gussin	Mount Sinai Hospital

George Andrew Harmon	Los Angeles General Hospital, Los Angeles, California
Harold John Heath	West Suburban Hospital, Oak Park, Illinois
Carl John Edward Helgeson	Wesley Memorial Hospital
James Otis Helm	Highland Park Hospital, Highland Park, Illinois
Walter Ray Henderson	Buffalo City Hospital, Buffalo, New York
Donald Kenneth Hibbs	St. Luke's Hospital
Harold Bertrand Hogue	Los Angeles General Hospital, Los Angeles, California
Albert Ickstadt, Jr.	U.S. Naval Hospital, Brooklyn, New York
Sara Margaret Kiser	
Robert Lelon Ladd	Washington Boulevard Hospital
Erling Noer Larsen	Highland Park Hospital, Highland Park, Illinois
Hans Will Lawrence	St. Mary's Hospital, Madison, Wisconsin
Henry Luidens	St. Luke's Hospital, Cleveland, Ohio
Howard Maurice Meyer	Highland Park Hospital, Highland Park, Illinois
Walter Herman Milbacher	St. Luke's Hospital
William Richard Miner	Highland Park Hospital, Highland Park, Illinois
Cecil Loveland Morrow	Swedish Hospital, Seattle, Washington
James Edward McCarthy	Presbyterian Hospital
Edmund Wright McElligott	St. Luke's Hospital
Frederic Max Nicholson	Norwegian-American Hospital
George Francis O'Brien	Cook County Hospital
Stephen Anthony Parowski	U.S. Naval Hospital, Chelsea, Washington
Florence Powdermaker	Children's Memorial Hospital
Frank Kenneth Power	St. Luke's Hospital
James Wallace Shaw	Wesley Memorial Hospital
Paul Greenwood Spelbring	Washington Boulevard Hospital
Frederick Lewis Sperry	Henry Ford Hospital, Detroit, Michigan
Willard Carlyle Sumner	Augustana Hospital
Van William Taylor	Durand Hospital
Linton Gilmore Weed	West Suburban Hospital, Oak Park, Illinois
Seymour Weinstein	Roseland Community Hospital
Ralph Glenn Whitmer	West Suburban Hospital, Oak Park, Illinois

DEGREES OF DOCTOR OF PHILOSOPHY IN THE MEDICAL SCIENCES CONFERRED IN THE SPRING, SUMMER, AUTUMN, AND WINTER QUARTERS, 1925-26

Harold Clifford Goldthorpe	Physiological Chemistry
Reuben Gilbert Gustavson	Physiological Chemistry
Frederic Theodore Jung	Physiology
Edmund Joseph Jurica	Physiology
Thomas Leroy McMeekin	Physiological Chemistry
Allan Funder Reith	Hygiene and Bacteriology
Charles Winston Sauders	Physiological Chemistry

LIST OF STUDENTS

GRADUATE SCHOOL OF MEDICINE OF THE OGDEN GRADUATE SCHOOL OF SCIENCE

The following list includes only those students who were in attendance during one or more quarters, and who were entitled to take the quarterly examinations.

NOTE.—The naming of a degree not followed by the name of an institution in parenthesis is understood to mean a degree conferred at the University of Chicago.

Where no institution is named, it is understood to mean that the student began his college career at the University of Chicago.

Where no state is mentioned, Illinois is understood.

Abbreviations.—U. = University; C. = College; S. = School; Hs. = High School; A. = Academy; Sm. = Seminary; Inst. = Institute (or Institution).

PERIOD OF RESIDENCE.—*s* = Resident during Summer Quarter, 1925; *a* = Resident during Autumn Quarter, 1925; *w* = Resident during Winter Quarter, 1926; *sp* = Resident during Spring Quarter, 1926.

MATRICULATES FOR 1925–26, FIRST AND SECOND YEARS

Abelson, Albert, *a*, *w*, *sp*, New York, N.Y. A.B. (Columbia U.) '25.

Alexander, Cornelius Allen, *a*, *w*, Chicago. A.B. (Fisk U.) '23.

Almquist, Reuben Emanuel, *s*, Loomis, Nebraska. U. of Nebraska; S.B. '24.

Amberson, Bernard Oliver, *s*, *a*, *w*, Chicago. Lewis Institute; S.B. '25.

Anagnostopoulos, George Dionision, *a*, Castion, Greece. S.B. '25.

Baeumle, Clarence Earl, *a*, *w*, *sp*, Ashland, Wis. Marquette U.; S.B. '25.

Baron, Charles, *a*, *w*, *sp*, Beloit, Wis. B.S. (Beloit C.) '25.

Bascom, Kellogg Finley, *s*, Richmond, Va. M.S. '19; Ph.D. '22.

Beardsley, Ralph Wesley, *s*, *a*, *w*, *sp*, Kankakee. S.B. '26.

Beeuwkes, Lambertus Eugene, *w*, *sp*, Holland, Mich. B.A. (Michigan State C.) '25

Bennett, Frederick Robert, *a*, *w*, *sp*, Omro, Wis. S.B. '25.

Bennett, James Paul, *s*, *a*, Chicago. S.B. '18; S.M. '22.

Benson, Otis Otto, Jr., *a*, *w*, *sp*, Floodwood, Minn. B.A. (U. of Montana) '24; M.S. (U. of Iowa) '25.

Berard, LeRoy Henry, *s*, Chicago. Ph.B. '19; A.M. '20.

Berger, Samuel, *a*, *w*, *sp*, Chicago. S.B. '25.

Bergner, Elizabeth Anne, *sp*, Chicago. S.B. '15; S.M. '16.

Bernheim, Martha, *s*, Chicago. B.S. (U. of Washington) '21.

Berry, Leonidas Harris, *a*, *w*, *sp*, Chicago. S.B. '25.

Beuker, Herman, *a*, *w*, Grand Rapids, Mich. B.A. (Hope C.) '22; M.S. (U. of Illinois) '24.

Boley, Floyd Emery, *sp*, Kahoka, Mo. A.B. (Central C.) '25.

Boonstra, Frank Maurice, *a*, *w*, *sp*, Zeeland, Mich. A.B. (U. of Michigan) '23.

Bourke, Henry Patrick, *s*, *a*, *w*, *sp*, Chicago. S.B. '25.

Boyle, Harry Hadley, *sp*, Chicago. A.B. (Indiana State Normal C.) '19.

Brackin, Roy Ernest, *s*, *a*, *w*, *sp*, What Cheer, Ia. S.B. '25.

Brandman, Harry, *a*, *w*, *sp*, Whiting, Ind. S.B. '25.

Brannon, Londus Baker, *a*, Chicago. S.B. '25.

Braudwell, Leslie Jarrett, *a*, Wendell, N.C. B.A. (Trinity C.) '21.

Brewer, John Isaac, *a*, *w*, *sp*, Peoria. S.B. '25.

Brown, Walter Bigelow, *s*, Granville, Ohio. A.B. (Coe C.) '24.

Browning, James Leonard, *a*, *w*, Iron Mountain, Mich. S.B. '25.

Bryant, Arthur Ralph, *w*, *sp*, Hastings, Neb. B.A. (Grinnell C.) '25.

Burke, John James, *a*, *w*, *sp*, Pittsburgh, Pa. B.Sc. (Duquesne U.) '23.

Burtness, Hildahl Ingbert, *a*, *w*, *sp*, Blooming Prairie, Minn. A.B. (St. Olaf C.) '25.

Butler, Stuyvesant, *a, w, sp,* Winnetka. Ph.B. (Yale U.) '24.
Camenisch, Solon William, *s, a, w,* Chicago. Lewis Inst.; Senior C.
Campbell, Coyne Herbert, *a, w,* Davidson, Oklahoma. B.A. (U. of Oklahoma) '24.
Cantwell, Thomas Olin, *sp,* Chicago. B.A. (Cornell C.) '20.
Cardon, Leonard, *a, w, sp,* Chicago. S.B. '25.
Cartmell, William Holton, *a, w, sp,* Maysville, Ky. B.A. (U. of Kentucky) '25.
Cassidy, Raymond Michael, *a, w, sp,* Ottawa. A.B. (U. of Michigan) '24.
Chan, Gumdock, *a, w,* San Francisco, Calif. A.B. (Stanford U.) '22.
Chapman, Harold Julius, *s, a, w,* Speed, Kansas. S.B. '25.
Chow, William Sze Hsin, *s, a, w, sp,* Peking, China. S.B. '25.
Coffey, Francis Jerry, *w, sp,* Omaha, Nebraska. B.A. (Fordham U.) '25.
Cohen, Maurice Louis, *s,* Chicago. S.B. '22.
Coleman, Peter F., *a, w, sp,* Brooklyn, N.Y. B.S. (C. of City of New York) '25.
Connelly, Edgar James, *a, w, sp,* Dubuque, Ia. A.B. (Columbia C.) '24.
Countryman, Howard Dick, *a, w, sp,* Rockford. B.S. (Dartmouth C.) '24.
Crawford, Helen Lucile, *a, w, sp,* Urbana. A.B. (U. of Illinois) '15; M.A. (Columbia U.) '22.
Crisler, George Russell, *a, w, sp,* Normal. S.B. '24.
Crowley, Edmund Clarence, *s, a, w,* Idaho Falls, Idaho. U. of Utah; S.B. '25.
Culver, Frances, *w, sp,* Chicago. Ward Belmont C.; S.B. '25.
Dasse, Herbert William, *a, w,* St. Joseph, Mich. S.B. '25.
Davis, Margaret, *s,* Chicago. U. of Tennessee; S.B. '24.
De Costa, Edwin Jay, *a, w, sp,* Chicago. S.B. '26.
DeVries, Daniel, *a, w, sp,* Grand Rapids, Mich. B.A. (Calvin C.) '25.
Diamond, Mortimer, *a, w, sp,* Chicago, Senior C.
Diffenderfer, Ralph Ewing, *sp,* Blue Island. S.B. '26.
Doty, Hubert Frank, *w, sp,* Stuttgart, Arkansas. B.S. (Monmouth C.) '25.
Droegemueller, Edmund Henry, *s,* Itasca. S.B. '24.
Dubbs, Jean Estelle, *a, w, sp,* Wilmette. B.A. (Wellesley C.) '25.
Duerfeldt, Treacy Henry, *a, w, sp,* Spokane, Wash. B.S. (State College of Washington) '22.
Eaton, Robert Menzo, *a, w,* Chicago. Knox C.; S.B. '24.
Eberhart, Bertha, *a, sp,* Chicago. Ph.B. '18.
Edwards, Clarence Owen, *s, a, w,* Provo, Utah. B.A. (Brigham Young U.) '23.
Eiseman, Charles, *a, w, sp,* Chicago. B.S. (U. of Wisconsin) '24; M.S. (*ibid.*) '25.
Ekstrand, Clarence Albin, *a,* Galesburg. B.A. (Lombard C.) '25.
Elliott, Harold Briggs, *s, a, w,* Chicago. Colgate U.; S.B. '25.
Felsher, Myron Isaac, *s,* Chicago. S.B. '24.
Ferguson, Arthur Newton, *s,* Trenton, Mo. S.B. '23.
Ferrell, Lewis Joseph, *a, w, sp,* Pony, Mont. B.S. (Montana State C.) '24.
Foster, Allyn King, Jr., *sp,* Chicago. B.S. (Colgate U.) '25.
Fredberg, Clifford Walter, *a, w,* Rockford. A.B. (Augustana C.) '25.
Freund, Robert Richard, *a, w, sp,* Evansville, Ind. B.A. (DePauw U.) '25.
Fuller, Leland Stanford, *s,* Lawrenceville. S.B. '24.
Gast, Carl Leonard, *sp,* Chicago. S.B. '26.
Gaynor, Martin Francis, *w, sp,* Indian Orchard, Mass. B.A. (Holy Cross C.) '24.
Geiger, Carl Burkhart, *a, w, sp,* Columbus Grove, Ohio. A.B. (Ohio U.) '25.
Gerrish, Donald, *a, w, sp,* Clinton, Indiana. A.B. (Wabash C.) '25.

Gibbins, Ivanoel, *s, a, w, sp,* St. Joseph, Mo. A.B. (Park C.) '22.
Gilbert, Verna Townsend, *s, a, w,* Oskaloosa, Ia. A.B. (Penn C.) '19.
Gilchrist, Richard Kennedy, *sp,* Chicago. S.B. '26.
Glaser, Harry Theodore, *a, w,* Zanesville, Ohio. S.B. '25.
Goldman, Theodore Herzl, *a, w, sp,* Green Bay, Wis. S.B. '25.
Goldstein, Jack, *s, a, w, sp,* Chicago. S.B. '25.
Goodman, Aubrey Louis, *a, w, sp,* Waco, Texas. S.B. '25.
Gordon, Wayne, *a, w, sp,* Franklin Ind. A.B. (Franklin C.) '25.
Gowdy, Franklin Kamm, *a, w, sp,* St. Joseph, Mich. S.B. '26.
Gower, Walter Eugene, *a, w, sp,* Odell. A.B. (U. of Illinois) '25.
Grauer, Theophil Paul, *sp,* Chicago. S.B. '20.
Greenebaum, Henry Arthur, *s, a, w, sp,* Chicago. S.B. '24.
Greer, Frank Emmet, *a, w,* Richland, Mich. M.S. (Kalamazoo C.) '21.
Grubb, Donald Joanas, *s, a, w, sp,* Liberty. S.B. '25.
Gruhlke, Evelyn Mae, *a, w, sp,* Jackson, Minn. B.A. (Hamline U.) '25.
Guibor, George Pertle, *s,* Chicago. S.B. '24.
Hanson, Harold Birger, *a, w, sp,* Des Moines, Ia. A.B. (Augustana C.) '25.
Harkins, Henry Nelson, *s, a, w, sp,* Chicago. S.B. '25.
Harmon, Paul Hardin, *a, w, sp,* Flandreau, S.D. S.B. '25.
Harris, Charles Oscar, *s, a, w,* Mendota. S.B. '25.
Harsh, George Frederick, *sp,* Garrett, Ind. A.B. (U. of Illinois) '22.
Hartman, Howard Jesse, *a, w, sp,* Anamosa, Ia. S.B. '25.
Hawkins, John Ruskin, *s,* Chicago. B.A. (U. of Missouri) '21.
Healey, Claire Eliza, *sp,* Elgin. A.B. (Mt. Holyoke C.) '17.
Hemken, Louisa Dorothy, *s, a, w,* Chicago. S.B. '25.
Hill, Thomas Price, *s, a, w,* La Grande, Oregon. S.B. '25.
Hiller, Grace, *a, w, sp,* Marblehead, Mass. B.A. (Smith C.) '20.
Hilton, Robert Kornitzer, *a, w, sp,* Socorro, N. Mex. U. of Wisconsin; Senior C.
Hoerr, Normand, *s, a, w, sp,* Peoria. A.B. (Johns Hopkins U.) '23.
Holck, Harald Groth Oxholm, *a, w, sp,* Copenhagen, Denmark. S.B. '21.
Holecek, Frank, *sp,* Cicero. S.B. '26.
Holmes, Willard Stanley, *s, a, w, sp,* Saskatoon, Sask. B.A. (Queen's U.) '15.
Holt, Frank, *sp,* Rich Valley, Minn. B.S. (S. Dakota State S. of Mines) '24.
Holton, Sylvia Gates, *a, w, sp,* Newburyport, Mass. A.B. (Mt. Holyoke C.) '25.
Hosmer, Macdonald Stuart, *a, w,* Ashland, Wis. B.S. (Tufts C.) '25.
Humphreys, Eleanor, *s, a, w, sp,* Fair Haven, Vt. A.B. (Smith C.) '17.
Hunt, Luke Weldon, *s,* Johnson City, Tenn. S.B. '22.
Jackson, Marque Leslie, *a, w, sp,* Chicago. S.B. '25.
Janovsky, Felix Malcolm, *sp,* Chicago. S.B. '24.
Jenkins, Richard Leas, *a, w, sp,* Culver City, Calif. B.A. (Stanford U.) '25.
Johnson, Carl August, *s,* Chicago. S.B. '25.
Johnson, Spencer, *s, a, w, sp,* Batavia. S.B. '25.
Johnston, Albert Chandler, *a, w, sp,* Chicago. S.B. '25.
Jones, Alexander James, *s,* Chicago. S.B. '25.
Jones, Robert Moore, *a, w, sp,* Wilmette. A.B. (U. of Illinois) '24.
Jones, William Moses, *sp,* Detroit, Mich. B.A. (Fisk U.) '22.
Jung, Frederic Theodore, *a, w, sp,* Sheboygan, Wis. B.S. (U. of Wis.) '19.
Kantzer, Floyd Bernhard, *s, a, w,* Canton, Ohio. B.A. (Capitol U.) '17.

Kegerreis, Roy, *a, w, sp,* Chicago. A.M. (Harvard U.) '16.
Kelekian, Hampar, *s,* Chicago. S.B. '24.
Kerr, Phyllis Schuyler, *s,* Staten Island, N.Y. S.B. '24.
Kindred, Gladys, *s,* Meadow Grove, Neb. B.A. (Vassar C.) '19.
Kinsey, Jack, *a, w, sp,* Milwaukee, Wis. Senior C.
Knaisel, Stephen Anton, *a, w, sp,* Chicago. B.A. (Marquette U.) '23.
Knoll, Leo August Henry, *s,* Ottawa. B.A. (St. Olaf C.) '21.
Koch, Dorothy, *a, w, sp,* Larchmont, N.Y. S.B. '25.
Kostelecky, Libuse, *sp,* Chicago. S.B. '25.
Kowalinski, Francis Vincent, *a, w, sp,* South Bend, Ind. B.S. (Notre Dame U.) '25.
Kraus, Fred Joseph, *a, w, sp,* Chicago. S.B. '25.
LaMaster, Duane Earl, *a, w, sp,* Keokuk, Ia. B.S. (Knox C.) '25.
Langdon, Roy Milton, *a, w, sp,* Chicago. S.B. '25.
Larson, John Augustus, *s,* Chicago. M.A. (Boston U.) '15; Ph.D. (U. of California) '20.
Latimer, Earl Oswel, *s,* Corning, Ark. A.B. (Hendrix C.) '23.
Leckband, Norbert, *a, w, sp,* Ocheyedan, Iowa. B.D. (Concordia C.) '24.
LeMaster, Ralph Emerson Jenkins, *a, w, sp,* West Lafayette, Ind. A.B. (De Pauw U.) '24.
Lennon, Robert, *a, w, sp,* Joliet. S.B. '25.
Lesage, Charles Herman, *a, w, sp,* Dixon. S.B. '25.
Levine, Victor, *a, w, sp,* Chicago. S.B. '25.
Levy, Robert Charles, *a, w, sp,* Chicago. Senior C.
Lewis, Austin Philip, *s, a, w, sp,* Chicago. S.B. '25.
Lipovetz, Ferdinand John, *sp,* Chicago. B.S. (Columbia U. Teachers' C.) '22.
Lontoc, Federico Marino, *s, a, w,* Philippine Islands. S.B. '25.
Lutz, Edgar Adelbert, *a, w, sp,* Oshkosh, Wis. S.B. '25.
Markee, Joseph Eldridge, *a, w, sp,* Neponset. S.B. '25.
Mason, Robert Judson, *s, a, w, sp,* Chicago. S.B. '25.
Means, Myron Gilmartin, *a, w, sp,* Saybrook. B.S. (Illinois Wesleyan U.) '25.
Menehan, Frank Lionel, *a, w, sp,* Lawrence, Kans. B.S. (Kansas State Teachers' C.) 22.
Monteith, Robert Fisher, *a, w, sp,* Marshalltown, Ia. B.S. (Coe C.) '25.
Muirhead, Robert Mowatt, *s, a,* Moosejaw, Sask. B.Sc. (U. of Saskatchewan) '22.
Murray, Jonathan Halsted, *s, a, w, sp,* Knoxville. B.S. (Otterbein C.) '22.
McClelland, Preston Henkle, *sp,* Decatur. B.A. (James Millikin U.) '21.
McGee, Lemuel Clyde, *s, a, w, sp,* Wichita Falls, Texas. A.B. (Baylor U.) '24.
McIntyre, Archibald Ross, *sp,* Stockport, England.
McKinley, Hugh Arthur, *sp,* Michawaka, Ind. B.A. (Wabash C.) '14.
Neiman, Benjamin Harold, *a, w, sp,* Chicago. Senior C.
Nelson, Curtis, *s,* Chicago. A.B. (Harvard U.) '23.
Neuhauser, Irene Anna, *a, w, sp,* Gridley. S.B. '23.
Newlove, Frank Elwood, *sp,* Des Moines, Iowa. S.B. '25.
Nordlund, Mildred Eva, *s, a, w, sp,* Chicago. S.B. '26.
Oboler, Minnie, *s,* Chicago. S.B. '24.
O'Leary, James LeRoy, *s, a, w, sp,* San Antonio, Texas. S.B. '25.
Olson, Ernest Sivereen, *a, w, sp,* Gary, Ind. B.S. (Beloit C.) '25.
Owens, Helen Brewster, *sp,* Ithaca, N.Y. A.B. (Cornell U.) '25.
Paisley, Alfred Musgrave, *a, w, sp,* Farmington, Ia. S.B. '26.
Parsons, Harold Hunt, *a, w, sp,* Moline. B.A. (Grinnell C.) '21.
Patchen, Paul J., *a, w, sp,* Chicago. S.B. '25.

Patrick, Glenn B., *a, w, sp,* Chicago. B.A. (Morningside C.) '16.
Pearl, Allen Sexton, Jr., *w, sp,* Oak Park. B.A. (Dartmouth C.) '24.
Pennington, Walter Gwens, *w, sp,* London, Ky. A.B. (Center C.) '23.
Perusse, George Louis, Jr., *a, w, sp,* Chicago. S.B. '25.
Pier, Harry McKay, *a, w, sp,* Chicago. B.S. (U. of Wis.) '22.
Pigmon, Alger Bart, *w, sp,* Hindman, Ky. A.B. (U. of Kentucky) '25.
Pleune, Russell Edward, *a, w, sp,* Grand Rapids, Mich. A.B. (Hope C.) '25.
Ploche, Leon Reginald, *sp,* Chicago. B.S. (Lewis Inst.) '23; M.S. (Northwestern U.) '23.
Polhamus, Lillian, *s,* Ft. Wayne, Ind. S.B. '24.
Porro, Francis Walthour, *s, a, w, sp,* New York, N.Y. S.B. '26.
Proud, Theodore Stanley, *a, w, sp,* South Bend, Ind. A.B. (De Pauw U.) '21.
Pyle, Lucien Robert, *s,* Emporia, Kans. B.S. (Kansas State Teachers' C.) '22.
Quick, William Joseph, *w, sp,* Muncie, Ind. S.B. '24.
Rabens, Jack Irving, *a, w, sp,* Chicago. S.B. '25.
Radzinski, John Marion, *s, a, w,* Chicago. S.B. '23.
Reed, Glenn Augustus, *s,* Grand Island, Neb. A.B. (Grand Island C.) '23.
Reed, Paul Henry, *w, sp,* Chicago. B.S. (U. of Idaho) '23.
Reifsneider, J. Stanley, *s,* Pottstown, Pa. B.S. (Ursinus C.) '23.
Reinertsen, Paul Daniel, *s, a, w, sp,* Kennard, Neb. A.B. (Augustana C.) '21.
Renter, Ruth Kuss, *a, w, sp,* Cleveland, Ohio. B.A. (Western Reserve U.) '18.
Rich, Gilbert Joseph, *s, a, w,* Racine, Ohio. A.M. (Cornell U.) '15; Ph.D. (*ibid.*) '17.
Ricketts, Henry Fubbs, *a, w, sp,* Kirkwood. S.B. '24.
Rosi, Peter Albert, *s,* Chicago. S.B. '24.
Rozen, Joseph Samuel, *a, w, sp,* Cedar Rapids, Iowa. B.A. (Coe C.) '25.
Rubin, Samuel, *a, w, sp,* Chicago. S.B. '25.
Schiek, Vernon Wagner, *a, w, sp,* Chicago. S.B. '25.
Schultz, Abe, *sp,* Mason City, Ia. S.B. '26.
Scuderi, Samuel Andrew, *s, a, w,* Tampa, Fla. S.B. '25.
Scull, Ralph Horace, *s, a, w,* Chicago. S.B. '24.
Seevers, Maurice Harrison, *a, w, sp,* Topeka, Kans. A.B. (Washburn C.) '24.
Shambaugh, George, *a, w, sp,* Chicago. B.A. (Amherst C.) '24.
Shaw, James Wallace, *s,* Topeka, Kans. A.B. (U. of Kansas) '20.
Sheen, Herbert Arnold, *a, w, sp,* Chicago. S.B. '24.
Sherman, Irene Case, *a, w, sp,* Cicero. Ph.B. 16; Ph.D. '24.
Shohet, Abram Soloman, *a, w,* Chicago. S.B. '25.
Short, Calvin Horner, *s, a, w, sp,* Chicago. B.A. (Williams C.) '24.
Simon, Benjamin, *a,* Washington, D.C. A.B. (Stanford U.) '25.
Simon, Sylvan William, *s, a, w,* Chicago. S.B. '24.
Sippy, Hall Ivan, *a, w, sp,* Chicago. S.B. '21.
Sloan, Jack Herzl, *a, w, sp,* Chicago. S.B. '25.
Smitgen, Paul Hilpert, *s, a, w,* Chicago. A.B. (Oberlin C.) '20.
Smith, Erma, *s, w, sp,* Sharon, Kans. A.B. (U. of Kansas) '20; A.M. (Vassar C.) '22.
Smith, Joseph Jennings Harrison, *a, w, sp,* Monessen, Penn. A.B. (U. of Pennsylvania) '23.
Spencer, Frank Curtis, *a, w, sp,* Chicago. B.S. (U. of Washington) '22.
Spivek, Mandel Lawrence, *a, w, sp,* Chicago. S.B. '25.
Stackhouse, Stirling Perry, *a, w,* Chicago. Senior C.
Starkweather, Rodney, *a, w, sp,* Evanston. A.B. (Dartmouth C.) '24.

Steen, William Brooks, *a, w, sp,* Joliet. S.B. '25.
Stephens, Willie Mary, *s, sp,* Pikeville, Tenn. B.A. (U. of Tennessee) '20; M.A. (Ohio State U.) '23.
Stern, Samuel Louis, *a, w, sp,* Chicago. S.B. '25.
Stewart, Ellen, *s, a, w, sp,* Pueblo, Colo. S.B. '15.
Stoek, Leigh, *a, w,* Urbana. A.B. (Vassar C.) '19.
Storchheim, Frederic, *s, a, w,* Chicago. S.B. '18; S.M. '21.
Sweimler, Myrtle, *s, a, w,* Tampa, Fla. S.B. '25.
Takaki, Herbert, *s, a, w,* Honolulu, T.H. S.B. '25.
Talbott, Seigmund Benton, *a, w, sp,* Elkins, W.Va. B.S. (Davis-Elkins C.) '24.
Tanenbaum, Albert Louis, *sp,* Chicago. B.S. (U. of Illinois) '22.
Tanner, James Wallace, *s, a, w,* Chicago. S.B. '24.
Teopaco, Şimeon Limpico, *s, a, w,* Philippine Islands. S.B. '25.
Terrell, Edward Eugene, *a, w, sp,* San Marcos, Texas. B.S. (U. of Arizona) '25.
Teusink, James Harvey, *a, w, sp,* Coopersville, Mich. B.A. (Hope C.) '25.
Thompson, Susie Hurst, *s,* Gananoque, Ont. S.B. '24.
Thorup, Donald Wright, *s, a, w, sp,* Chicago. B.S. (Grinnell C.) '24.
Timbres, Harry Garland, *s,* Chicago. B.A. (Haverford C.) '21.
Timm, Chester William *a, w, sp,* Chicago. S.B. '24.
Tosney, Harold J., *sp,* Dixon. S.B. '25.
Tremaine, Jay Eugene, *a, w, sp,* Chicago. B.S. (Dartmouth C.) '24.
Tsoulos, George Demetrious, *s,* Chicago. S.B. '24.
Tuta, Joseph Adolph, *s, a, w, sp,* Youngstown, Ohio. B.S. (Case S. of Applied Science) '22.
Twente, Julius, *a, sp,* Napoleon, Mo. A.B. (U. of Missouri) '23.
Veneklasen, Oliver Earl, *a, w,* Zeeland, Mich. A.B. (Hope C.) '24.
Voris, Harold C., *s, a, w, sp,* Hanover, Ind. A.B. (Hanover C.) '23.
Wakerlin, George Earle, *w, sp,* Chicago. S.B. '23.
Wallin, Beulah Leon, *s, a, w,* Chicago. A.B. (U. of Washington) '22.
Wargin, James Ignatius, *a, w, sp,* South Bend, Ind. B.S. (Notre Dame U.) '25.
Weaver, Myron MacDonald, *a, w, sp,* Wheaton. A.B. (Wheaton C.) '24.
Weedon, Frederick Renfree, *s,* Tampa, Florida. B.S. (U. of Florida) '21; M.S. (*ibid.*) 23.
Weeter, Harry Montgomery, *s,* Louisville, Ky. A.B. (Allegheny C.) '11; S.M. (U. of Illinois) '17; Ph.D. '22.
Weinrobe, Maurice, *s, a, w,* Chicago. S.B. '25.
Weinzimmer, Harold Robert, *a, w,* Chicago. S.B. '24.
Werelius, Walter Ronald, *s, a, w, sp,* Chicago. E.M. (Montana State S. of Mines) '21.
Williams, Lawrence Arthur, *a, w, sp,* Sparks, Nevada. U. of Nevada; Senior C.
Williamson, Holland, *a, w, sp,* Danville. B.A. (Swarthmore C.) '24.
Winkler, Harry, *s, a, w,* New Philadelphia, Ohio. S.B. '21.
Wolf, Alexander, *s, a, w, sp,* Chicago. S.B. '22.
Wolf, Albert Meyer, *sp,* Chicago. S.B. '26.
Wolfson, Harold, *s, a, w, sp,* Chicago. S.B. '25.
Wood, Willard Leo, *a, w, sp,* Chicago. A.B. (Indiana State Normal C.) '20.
Wright, Robert Elmer, *s,* Chicago. A.B. (Hanover C.) '18.
Yolton, Leroy William, *a, w, sp,* Bloomington. B.S. (Illinois Wesleyan U.) '21; M.A. (Harvard U.) '23.
Zapler, Max C., *s, a, w,* Chicago. S.B. '14.

RUSH MEDICAL COLLEGE

THIRD YEAR

Almquist, Reuben Emanuel, *a, w, sp,* Loomis, Neb. S.B. (U. of Nebraska) '24.
Anthony, Benjamin William, *a, w,* Crawford, Miss. Talladega C.; S.B. '25.
Amberson, Bernard Oliver, *sp,* Chicago. Lewis Institute; Senior C.; S.B. '25.
Atcheson, Bellfield, *a, w, sp,* Appleton City, Mo. A.B. (U. of Missouri) '24.
Banfield, Samuel Richard, *a, w, sp,* Broadview, Mont. A.B. (U. of Montana) '23.
Beck, James Simon Peter, *s, sp,* Hartselle, Ala. B.S. (U. of Alabama) '24.
Benjamin, Eustace Lincoln, *s,* Los Angeles, Calif. S.B. '23.
Bennett, James Paul, *s, a, w,* Chicago. S.B. '18; S.M. '22.
Bergsma, Stuart, *s, a,* Grand Rapids, Mich. A.B. (Calvin C.) '22.
Bernheim, Martha Julia, *a, w, sp,* Chicago. S.B. (U. of Washington) '21.
Beuker, Herman, *sp,* Grand Rapids, Mich. B.A. (Hope C.) '22; M.S. (U. of Illinois) '24.
Black, Harold Chittenden, *a, w, sp,* Hammond, Ind. B.A. (U. of Kansas) '18.
Bloemendal, Willard Bernard, *a, w, sp,* Holland, Mich. A.B. (U. of Wisconsin) '25.
Boland, John Philip, *s, a,* Oak Park. A.B. (St. Mary's C.) '22.
Bond, Ian Hubert, *a, w, sp,* Roanoke, W.Va. A.B. (Salem C.) '23; S.B. (U. of West Virginia) '25.
Botta, Louis Patrick, *s,* Ensley, Ala. S.B. (U. of Alabama) '24.
Bresiter, Benjamin Walter, *a, w, sp,* Fond du Lac, Wis. (U. of Wisconsin) '24.
Breslich, Paul Jean, *a, w, sp,* Chicago. S.B. '24.
Browning, James Leonard, *sp,* Iron Mountain, Mich., Michigan Agricultural College; University of Michigan, S.B. '25.
Bullard, Mattie Jane, *a, w,* Casselton, N.D. A.B. (Carleton C.) '22.
Camenisch, Solon William, *sp,* Chicago. Lewis Institute; Senior C.
Campbell, Coyne Herbert, *sp,* Davidson, Okla. A.B. (U. of Oklahoma) '25.
Campbell, Everett Wayne, *a, w, sp,* Washington, D.C. S.B. '23.
Campbell, Leo Kempf, *s, a,* Frankfort, Ind. S.B. '20.
Campbell, Paul Andrew, *a, w,* Frankfort, Ind. S.B. '24.
Carrell, Russell Cowgill, *a, w, sp,* Des Moines, Iowa. S.B. '24.
Carter, Ronald Plotts, *a, w, sp,* Warwick, N.D. A.B. (U. of North Dakota) '24; S.B. (*ibid.*) '25.
Chapman, Harold Julius, *sp,* Speed, Kan. U.S. Military Academy; Massachusetts Institute of Technology, S.B. '25.
Cochems, Frank Mathias, *a, w, sp,* Los Angeles, Calif. S.B. (U. of Idaho) '24.
Cohen, Maurice Louis, *a, w, sp,* Chicago. S.B. '22.
Compere, Edward Lyon, *s,* Weslaco, Tex. A.B. (Baylor U.) '22; M.S. '24.
Coon, Gaylord Palmer, *s,* Madison, Wis. S.B. (U. of Wisconsin) '22; M.S. (*ibid.*) '24.
Coyle, Helen Caryl, *a, w, sp,* Peoria. S.B. '24.
Crowley, Clarence Edmund, *sp,* Idaho Falls, Idaho. U. of Utah; Senior C.; S.B. '25.
Damerow, Wesley Paul, *a, w, sp,* Stitzer, Wis. A.B. (Morningside C.) '23.
Dasse, Herbert William, *sp,* St. Joseph, Mich. S.B. '25.
Davis, John Harlan, *a,* Belle Fourche, S.D. A.B. (U. of South Dakota) '23; S.B. (*ibid.*) '24.
Davis, Margaret Lewis, *a, w, sp,* Chicago. S.B. '24.
Delaney, Patrick Arthur, *s,* Dexter, Me. S.B. '21; Ph.D. '25.
Devney, Clarissa, *s,* Pine Island, Minn. S.B. '23.

DeVries, Jerry, *a*, *w*, *sp*, Chicago. A.B. (Hope C.) '23.
DeYoung, Ward Adrian, *s*, Chicago. A.B. (Hope C.) '22.
Diggs, Arthur Elmore, *s*, *a*, Blackwater, Mo. A.B. (Central C.) '20.
Doehring, Carl Frederic, *a*, *w*, *sp*, Houston, Texas. S.B. (Rice Institute) '23.
Droegemueller, Edmund Henry, *a*, *w*, *sp*, Itasca. S.B. '24; S.M. '25.
Eaton, Robert Menzo, *sp*, Chicago. S.B. '24.
Edwards, Clarence Owen, *sp*, Provo, Utah. A.B. (Brigham Young U.) '23.
Elliott, Harold Biggs, *sp*, Coshocton, Ohio. Colgate U.; Senior C.; S.B. '25.
Engelmann, Victor Emil, *a*, *w*, *sp*, What Cheer, Iowa. B.S. (U. of Wisconsin) '25
Evans, John Robert, *s*, *a*, Racine, Wis. S.B. (Lawrence C.) '24.
Farnum, Martha Belle, *s*, Ames, Iowa. B.S. (Iowa State C.) '17.
Farrell, James Irving, *sp*, Butte, Mont. Montana U.; Beloit C.; S.B. '24.
Feldman, Aaron, *s*, *a*, Bronx, N.Y. M.A. (Columbia U.) '19; Ph.D. '21.
Felsher, Isaac Myron, *a*, *w*, *sp*, Chicago. Crane Junior C.; S.B. '24.
Files, Edward Hasty, *a*, *sp*, Chicago. S.B. '21.
Findley, Thomas Palmer, *a*, *w*, *sp*, Omaha, Nebraska. A.B. (Princeton U.) '23.
Finner, Lucy Louise, *w*, *sp*, Arcadia, Wis. S.B. (U. of Wisconsin) '20; S.M. '25.
Fisher, Nelson Franklin, *s*, *a*, Milton, Pa. A.B. (Gettysburg C.) '18; M.S. '22; Ph.D. 23.
Frederich, William John, *a*, *w*, *sp*, Gulfport, Miss. M.S. (Mississippi Agricultural and Mechanical C.) '19.
Freeland, John Elder, *a*, *w*, *sp*, Marion, Kansas. A.B. (Kansas U.) '24.
Fuller, Leland Stanford, *a*, *w*, *sp*, Lawrenceville. S.B. '24.
Gandy, Daniel Truett, *a*, *w*, *sp*, Alexandria, La. A.B. (Baylor U.) '20; A.M. (*ibid.*) '21.
Gault, Joseph Telser, *s*, *w*, Chicago. S.B. '24.
Gelber, Anita, *a*, *w*, *sp*, Chicago. S.B. (Lewis Institute) '24.
Ginsburg, Samuel Arthur, *a*, *w*, *sp*, Pueblo, Colorado. S.B. '24.
Glaser, Harry Theodore, *sp*, Zanesville, Ohio. S.B. '25.
Goldberg, Samuel Louis, *a*, *w*, *sp*, Chicago. S.B. '24.
Good, Palmer, *a*, *w*, *sp*, River Forest. S.B. '24.
Gowanloch, Louise Ross, *a*, *w*, Bethel, Conn. A.B. (Hunter C.) '19.
Gray, Percival Allen, *s*, *a*, Chicago. S.B. '22; Ph.D. '24.
Green, George Noel, *s*, *a*, Coweta, Okla. Ph.G. (Valparaiso U.) '16; Senior C.
Guibor, George Pirtle, *a*, *w*, *sp*, Chicago. D.D.S. (Washington U. School of Dentistry) '18; S.B. '24.
Hallenbeck, George Glass, *a*, *w*, Grand Forks, N. D. A.B. (U. of North Dakota) '24; S.B. (*ibid.*) '25.
Harris, Charles Oscar, *sp*, Mendota. S.B. '25.
Harris, Everett Albert, *a*, *w*, Albany, Ala. S.B. (U. of Alabama) '22.
Hawkins, John Ruskin, *a*, *w*, *sp*, Maryville, Mo. A.B. (U. of Missouri) '21.
Hazzard, Lucia, *a*, *w*, *sp*, Peoria. A.B. (Ohio Wesleyan U.) '23.
Heckel, Norris, Julius, *s*, *a*, *w*, Winthrop, Iowa. A.B. (U. of Iowa) '22.
Heitmeyer, Powis Lee, *s*, *a*, *w*, Portland, Ore. A.B. (U. of Illinois) '23.
Hemken, Louisa Dorothy, *sp*, Chicago. Senior C.; S.B. '25.
Herrick, Ruth, *a*, *w*, *sp*, Chicago. S.B. '18.
Herrman, Roy Frederick, *a*, *w*, *sp*, Racine, Wis. S.B. (U. of Wisconsin) '24; M.S. (*ibid.*) '25.
Hess, Anton Philip, *a*, *w*, *sp*, Chicago. S.B. '24.
Hetherington, Robert Clarke, *a*, *w*, *sp*, Fond du Lac, Wis. S.B. '24.

Hill, Thomas Price, *sp*, LaGrande, Ore. U. of Oregon; S.B. '25.
Hogan, Marshall Davis, *a*, *w*, Birmingham, Ala. A.B. (Howard C.) '23; S.B. (U. of Alabama) '25.
Jackson, Ransome Otha, *s*, *a*, Decker, Ind. S.B. '24.
Jenkins, Frank Lukenbill, *s*, *a*, *w*, Tolley, N.D. A.B. (U. of North Dakota) '22; B.S. (*ibid.*) '24; M.S. (*ibid.*) '25.
Johannesen, Robert Eastnor, *a*, *w*, *sp*, Moscow, Idaho. B.S. (U. of Idaho) '21.
Johnson, Arthur Burnham, *s*, *a*, Michigan City, Ind. S.B. '24.
Johnson, Broor Alvin, *a*, *w*, *sp*, St. Francis, Kansas. A.B. (U. of Kansas) '24.
Johnstone, Archie Wharin, *a*, *w*, *sp*, Grand Forks, N.D. S.B. (U. of North Dakota.) '24.
Jones, Joseph Oscar, *a*, *w*, *sp*, Newton, Utah. A.B. (U. of Utah) '23.
Jordan, Edwin Pratt, *a*, *w*, *sp*, Homewood. S.B. (Harvard U.) '23.
Kantzer, Floyd Bernhard, *sp*, Canton, Ohio. A.B. (Capitol U.) '17.
Kasik, Otto, *s*, *a*, *w*, Chicago. S.B. (Lewis Institute) '23.
Keiser, Harry Rudolph, *a*, *w*, *sp*, Elgin, Iowa. A.B. (Iowa U.) '22.
Keklikian, Hampar Egishe, *s*, *a*, *w*, *sp*, Alexandrette, Syria. S.B. (U. of Dubuque) '24.
Kerr, Phyllis Schuyler, *a*, *w*, *sp*, New Brighton, N.Y. S.B. '24.
Kindred, Gladys Martin, *a*, *w*, *sp*, Meadow Grove, Neb. A.B. (Vassar C.) '17.
Klawans, Arthur Herman, *a*, *w*, *sp*, Chicago. S.B. '24.
Kluever, Herman Christof, *a*, *w*, *sp*, Audubon, Iowa. S.B. '24.
Koivuniemi, George William, *a*, *w*, *sp*, Finlayson, Minn. U. of Minnesota; S.B. '24.
Kracke, Roy Rachford, *s*, *sp*, Hartselle, Ala. S.B. (U. of Alabama) '24.
Kukuraitis, Stella Lucille, *a*, *w*, Chicago. S.B. '24.
Lambert, Claude Needham, *a*, *w*, *sp*, Salt Lake City, Utah. A.B. (U. of Utah) '24.
Lang, Wilbert Jason, *a*, *w*, *sp*, Cleveland, Ohio. A.B. (Harvard U.) '18.
Larson, John Augustus, *a*, *w*, *sp*, Chicago. A.M. (Boston U.) '15; Ph.D. (U. of California) '20.
Latimer, Earl Oswel, *a*, *w*, *sp*, Corning, Ark. A.B. (Hendrix C.) '23; M.S. '25.
Lieberman, Arnold Leo, *a*, *w*, *sp*, Gary, Ind. S.B. '24.
Lillie, Catherine Crane, *a*, *w*, Chicago. Ph.B. '21.
Lindberg, Axel Ludwig, *sp*, Crookston, Minn. A.B., S.B. (U. of North Dakota) '25.
Lipman, William Harrison, *a*, *w*, *sp*, Antigo, Wis. A.B. (U. of Wisconsin) '24; A.M. (*ibid.*) '25.
Lloyd-Jones, Orren, *s*, *a*, Chicago. M.S. (U. of Wisconsin) '11; Ph.D. (*ibid.*) '13.
Lontoc, Frederico Marino, *sp*. Philippine Islands. (U. of Philippines); S.B. '25.
Lundy, Clayton Jackson, *s*, *a*, Chicago. S.B. '24; M.S. '25.
Lyon, Clarence Loomis, *a*, *w*, *sp*, Gary, Ind. S.B. (Oberlin C.) '24.
MacClatchie, Leslie Keith, *s*, *a*, Chicago. S.B. '24.
Marquis, Vincent Brush, *a*, *w*, Bloomington. S.B. (U. of Illinois) '20.
McCall, Cummings Herrington, *s*, *a*, *w*, Montgomery, Ala. (U. of Alabama).
McLane, William Otrey, *a*, *w*, Ortonville, Minn. S.B. (U. of North Dakota) '25.
Meyer, Herman Fred, *s*, *a*, Altoona, Pa. A.B. (North-Western C.) '22.
Millard, Allen LaMont, *a*, *w*, *sp*, New London, Wis. S.B. (U. of Wisconsin) '25.
Miller, George Elmer, *s*, *a*, Massillon, Ohio. M.S. (Wooster C.) '11; Ph.D. '19.
Miller, Wilfred Stare, *s*, *a*, Decatur. A.B. (James Millikin U.) '19.
Mills, Edgar Stuart, *a*, *w*, *sp*, Chicago. S.B. '24.
Muirhead, Robert Mowatt, *w*, *sp*, Moosejaw, Sask. S.B. (U. of Saskatchewan) '22.
Nanninga, John Benjamin, *a*, *w*, *sp*, Emporia, Kansas. S.B. (State Teachers' C.) '21; S.M. '25.

Neff, Russell Eugene, *a*, *w*, Evansville, Ind. A.B. (Wabash C.) '20.
Nelson, Curtis, *a*, *w*, *sp*, Chicago. A.B. (Harvard U.) '23.
Newell, Merl August, *a*, *w*, Chester W.Va. S.B. (West Virginia U.) '25.
Newman, Wilfred Ewart, *s*, *a*, Spokane, Wash. B.S. (U. of Idaho.) '22.
Neumayr, George Hugo, *a*, *w*, Vermillion, S.D. A.B. (U. of South Dakota) '21.
Norman, Edith Emilie, *s*, *a*, Chicago. Pg.B. (Valparaiso) '16; A.B. (*ibid.*) '17; S.B. '18.
Oboler, Minnie Sylva, *a*, *w*, *sp*, Chicago. S.B. '24.
Ouda, Priscilla Anna, *a*, *w*, Chicago. S.B. '24.
Parker, Charles Dustin, *s*, Chicago. S.B. '21.
Parker, Hubert McKibban, *s*, *a*, *w*, Kansas City, Mo. A.B. (U. of Missouri) '23; A.M. '24.
Pearcy, James Frank, *s*, *sp*, Portland, Ore. S.B. '22; Ph.D. '24.
Pendleton, Walter Raymond, *s*, Long Beach, Calif. S.B. '23.
Perlstein, Meyer A., *s*, *a*, Chicago. S.B. '24.
Perrodin, Chester Alexander, *a*, *w*, Wisconsin Rapids, Wis. A.B. (U. of Wisconsin) '24; A.M. (*ibid.*) '25.
Plzak, Louis Frank, *a*, *w*, Cicero. Ph.G. (U. of Illinois) '21; S.B. '24.
Polhamus, Lillian Alberta, *a*, *w*, *sp*, Fort Wayne, Ind. S.B. '24.
Prescott, William Ernest, *a*, *w*, *sp*, Birmingham, Ala. A.B. (U. of Alabama) '23; S.B. (*ibid.*) '25.
Pyle, Lucien Robert, *a*, *w*, *sp*, Emporia, Kansas. S.B. (Kansas State Teachers' C.) '22.
Radzinski, John Marion, *sp*, Chicago. S.B. '23.
Ratner, Reuben, *a*, *w*, *sp*, San Francisco, Calif. S.B. (U. of Oregon) '22; S.B. (U. of North Dakota) '25.
Reding, Franklin Sherrill, *a*, *w*, *sp*, Lawrence, Kansas. A.B. (Kansas U.) '24.
Reed, Glenn Augustus, *a*, *w*, *sp*, Grand Island, Neb. A.B. (Grand Island C.) '23.
Reifsneider, J. Stanley, *a*, *w*, *sp*, Pottstown, Pa. B.S. (Ursinus C.) '23.
Rich, Gilbert Joseph, *sp*, Racine, Ohio. A.B., A.M. (Cornell U.) '15; Ph.D. (*ibid.*) '17.
Roberts, Ernest Seale, *a*, *w*, *sp*, Pascagoula, Miss. S.B. (Mississippi Agricultural and Mechanical College) '21.
Rosi, Peter Albert, *a*, *w*, *sp*, Chicago. S.B. '24.
Rudolph, Martin E., *a*, *w*, *sp*, Canton, S. D. A.B. (U. of South Dakota) '24; S.B. (*ibid.*) '25.
Shauer, John William, *a*, *w*, *sp*, Garrison, N. D. S.B. (U. of North Dakota) '23; A.B. (*ibid.*) '25; S.M. (*ibid.*) '25.
Scuderi, Samuel Andrew, *sp*, Tampa, Fla. U. of Florida; Senior C.; S.B. '25.
Scull, Ralph Horace, *sp*, Chicago. Wilberforce U.; S.B. '24.
Shapiro, Philip F., *a*, *w*, *sp*, Chicago. S.B. '24; M.S. '25.
Shohet, Abram Solomon, *sp*, Chicago. S.B. '25.
Shore, Fred Alfred, *a*, *w*, *sp*, Eldon, Iowa. A.B. (U. of Iowa.) '25.
Shuford, Mary Frances, *a*, *w*, *sp*, Asheville, N.C. B.S. (Shorter C.) '17; A.M. (Columbia U.) '19.
Shumway, Charles Moore, *s*, Dallas, Texas. A.B. (Baylor U.) '21; S.B. (U. of Oklahoma) '24.
Skow, John Dewey, *a*, *w*, *sp*, Ellsworth, Mich. A.B. (U. of Michigan) '22.
Smitgen, Paul Hilpert, *sp*, Chicago. A.B. (Oberlin C.) '20.
Smith, Carl Richard, *a*, *w*, *sp*, Superior, Wis. A.B. (U. of Wisconsin) '23.
Smith, Alice May, *s*, Atlanta, Ga. A.B. (Agnes Scott C.) '17.

Smith, Laurel Irene, *a*, *w*, Los Angeles, Calif. A.B. (Western Reserve) '21; S.B. '24.
Smolt, Charles Allen, *a*, *w*, *sp*, Newton, Kansas. A.B. (U. of Kansas) '24.
Soper, Herschel Vern, *a*, *w*, *sp*, Hutchinson, Kansas. (U. of Kansas).
Sloan, Leigh Edmund, *s*, Kalispell, Mont. S.B. '21.
Stenn, Arthur, *a*, *w*, Chicago. S.B. '24.
Stericker, George Black, *s*, *a*, Springfield. B.L. (Princeton U.) '17.
Stoek, Leigh, *sp*, Urbana. A.B. (Vassar C.) '19.
Storchheim, Frederic, *sp*, Chicago. S.B. '18; S.M. '21.
Stormont, Daniel Lytle, *s*, Princeton, Ind. A.B. (Geneva C.) '21; Ph.D. '25.
Straus, Elizabeth Kales, *sp*. Chicago. A.B. (Bryn Mawr C.) '21.
Stretcher, Robert Hatfield, *s*, *a*, Yellow Springs, Ohio. A.B. (Miami U.) '20.
Sweimler, Myrtle Florence, *sp*, Tampa, Fla. Florida State C. for Women, Senior C.; S.B. '25.
Tanner, James Wallace, *sp*, Chicago. S.B. '24.
Taylor, Andrew, *a*, *w*, *sp*, Little Rock, Ark. A.B. (Park College) '22.
Taymor, Joseph, *a*, *w*, Chicago. S.B. '24.
Teopaco, Simeon Limjuco, *sp*, Philippine Islands. S.B. '25.
Tetrev, Jaroslav, *s*, *a*, Chicago. S.B. '24.
Thompson, Susie Hurst, *a*, *w*, *sp*, Gananoque, Ont. S.B. '24.
Tower, Sarah Sheldon, *sp*, Chicago. S.B. '22.
Tsoulos, George Demetrius, *a*, *w*, *sp*, Chicago. S.B. '24.
Van Ark, Bert, *a*, *w*, *sp*, Holland, Mich. A.B. (Hope College) '21.
Vander Myde, Isaac, *a*, *w*, *sp*, Morrison. S.B. '24.
Veneklasen, Oliver Earl, *sp*. Zeeland, Mich. A.B. (Hope C.) '24.
Walker, Maurice Andrew, *a*, *w*, *sp*, Lawrence, Kansas. S.B. (Kansas State Teachers' C.) '23; A.M. (U. of Kansas) '25.
Wallin, Beulah, *sp*, Chicago. A.B. (U. of Washington) '22.
Watson, Ernest Starr, *a*, *w*, *sp*, Whitewater, Wis. S.B. (U. of Wisconsin) '23.
Weinrobe, Morris, *sp*, Vancouver, B.C., S.B. (U. of British Columbia) '20.
Willems, Jacob Daniel, *s*, Chicago. S.B. '22.
Williams, Ariel L., *a*, *w*, *sp*, Ogden, Utah. A.B. (U. of Utah) '24.
Williams, Delbert Bradley, *a*, *w*, *sp*, Mitchell, S. D. U. of California; U. of South Dakota.
Winkler, Harry, *sp*, New Philadelphia, Ohio. S.B. '21.
Wolff, Maxwell Jehiel, *a*, *w*, *sp*, Chicago. Ph.B. (Yale University) '21.
Wood, John Paul, *a*, *w*, *sp*, Waco, Texas. A.B. (Baylor U.) '23.
Woodard, Parke Harold, *a*, *w*, *sp*, Wichita, Kansas. A.B. (U. of Kansas) '18; A.M. (*ibid.*) '25.
Woods, Daniel Lindley, *a*, *w*, Los Angeles, Calif. (U. of Wisconsin).
Wright, Robert Elmer, *a*, *sp*, Chicago. A.B. (Hanover C.) '18.
Zapler, Max C., *sp*, Chicago. S.B. '14.
Zeisler, Ernest Bloomfield, *s*, *a*, Chicago. S.B. '19; Ph.D. '22.

FOURTH YEAR

Almquist, Carl Oscar Gotfred, *s*, Loomis, Neb. S.B. '23.
Amberson, Julius Martin, *s*, *a*, *w*, Santa Ana, Calif. E.M. (U. of Montana) '21.
Applegate, Clarence Eugene, *s*, *a*, *w*, Perrysville, Ohio. S.B. '23.
Artis, George Hubert, *s*, *a*, *w*, Chicago. S.B. (Cornell C.) '15.

Baker, Clyde Nelson, *s, a, w,* Passaic, N.J. S.B. '21.
Bassuener, Reynold Oliver, *s, a, w,* Sheboygan Falls, Wis. A.B. (Lawrence C.) '22; A.M. (U. of Wisconsin) '24.
Beglinger, Harold Fred, *s, a, w,* Oshkosh, Wis. S.B. (U. of Wisconsin) '19.
Belting, John Theodore, *s,* Charleston. S.B. (U. of Illinois) '24.
Benjamin, Eustace Lincoln, *a, w, sp,* Los Angeles, Calif. S.B. '23.
Bennett, James Paul, *sp,* Chicago. S.B. '18; S.M. '22.
Bergsma, Stuart, *w, sp,* Grand Rapids, Mich. A.B. (Calvin C.) '22.
Berrey, Ivan Columbus, *s, a,* Salitpa, Ala. S.B. (U. of Alabama) '23.
Beverly, Dale Ellis, *a, w, sp,* Chicago. A.B. (Virginia Union U.) '21.
Bierman, Jessie Marguerite, *a, w, sp,* Kalispell, Mont. A.B. (U. of Montana) '21.
Blomberg, Thorsten Emil, *s, a, w, sp,* Rockford. S.B. '24.
Boston, Burr Charles, *s, a, w,* Waterloo, Iowa. S.B. (Iowa State C.) '22.
Botta, Louis Patrick, *a, w, sp,* Ensley, Ala. S.B. (U. of Alabama) '24.
Boylson, Myron Isidore, *a, w, sp,* Oklahoma City, Okla. A.B. (U. of Oklahoma) '24; S.B. (*ibid.*) '24.
Bronaugh, Welbourne Frederick, *s, a, w, sp,* Hugo, Okla. A.B. (U. of Oklahoma) '24; S.B. (*ibid.*) '24.
Bruner, Julian Minassian, *a, w,* Des Moines, Iowa. S.B. '22.
Brunschwig, Alexander Eichel, *s, a, w,* Evansville, Ind. S.B. '23; M.S. '24.
Bullard, Mattie Jane, *sp,* Casselton, N.D. A.B. (Carleton C.) '22.
Callander, Adelbert R., *s,* Delaware, Ohio. S.B. '23.
Campbell, Leo Kempf, *w, sp,* Frankfort, Indiana. S.B. '20.
Carpenter, Ralph Van, *s, a, w,* Brazil, Indiana. A.B. (De Pauw U.) '22.
Chipman, Washburn Drew, *s, a, w,* Salt Lake City, Utah. A.B. (U. of Utah) '22.
Close, Francis Marion, *s, a, w,* Chicago. S.B. '23.
Compere, Edward L., *a, w, sp,* Weslaco, Tex. A.B. (Baylor U.) '22; M.S. '24.
Comstock, Frank Henry, *s, a, w, sp,* Chicago. S.B. (Lewis Institute) '22.
Congdon, Charles Bennett, *s, a, w,* Hibbing Minn. S.B. '23.
Coon, Gaylord Palmer, *a, w, sp,* Madison, Wis. S.B. (U. of Wisconsin) '22; M.S. (*ibid.*) '24.
Copps, Eugene Michael, *a, w, sp,* Seattle, Washington. S.B. '23.
Daines, Lyman Luther, *s,* Salt Lake City, Utah. A.B. (Brigham Young C.) '08; A.M (U. of Utah) '10; Ph.D. (U. of California) '12.
Damgaard, John Marius, *s, a, w,* Chicago. A.B. (U. of Copenhagen) '15.
Davis, John Harlan, *w, sp,* Belle Fourche, S.D. A.B. (U. of South Dakota) '23; S.B. (*ibid.*) '24.
Davis, John Pearson, *a, w, sp,* Lexington, Tenn. S.B. (U. of Oklahoma) '24.
Davis, William John Nixon, Jr. *s, a, w,* Chicago. S.B. '23.
Decker, Fred Henry, *a, w, sp,* Rock Rapids, Iowa. A.B. (Hope C.) '21.
Delaney, Patrick Arthur, *a, sp,* Dexter, Me. S.B. '21; Ph.D. '25.
Devney, Clarissa Elizabeth, *a, w,* Pine Island, Minn. S.B. '23.
DeYoung Adrian, *a, w, sp,* Chicago. A.B. (Hope C.) '22.
Diggs, Arthur Elmore, *w, sp,* Blackwater, Mo. A.B. (Central C.) '20.
Dishmaker, Melvin Charles, *a, w, sp,* Algoma, Wis. A.B. (U. of Wisconsin) '23
Doty, James Robert, *s, a,* Chicago. S.B. '23.
Duncan, John Stephen, *s, a, w,* Celina, Ohio. S.B. (Hiram C.) '19.
Dunn, Edward Harkless, *s, a,* Cairo. S.B. '23.

Egloff, William Chauncey, *a, w, sp,* Mason City, Iowa. S.B. '23.
Elliott, William *s, a, w,* Madison, Wis. S.B. (U. of Wisconsin) '24.
Ellis, James Conrad, *s, a, w,* West Frankfort. S.B. '23.
Evans, Charles Benjamin Shaffer, *s, a, w,* Chicago. A.B. (Harvard U.) '22.
Evans, John Robert, *w, sp,* Racine, Wis. S.B. (Lawrence C.) '24.
Faber, Samuel J., *w, sp,* Chicago. S.B. '23.
Farnum, Martha Belle, *a, w,* Ames, Iowa. S.B. (Iowa State C.) '17.
Fasting, George Frederick, *s,* Buenos Aires, Argentina. S.B. (Louisiana State U.) '13.
Feldman, Aaron, *w, sp,* Bronx, N.Y. M.A. (Columbia) '19; Ph.D. '21.
Fisher, Nelson Franklin, *w, sp,* Milton, Pa. A.B. (Gettysburg C.) '18; M.S. (*ibid.*) '22; Ph.D. '23.
Forney, John McLaughlin, *s, w,* Chicago. A.B. (U. of Alabama) '22.
Fox, Leda Ruth, *a, w, sp,* Chicago. Ph.B. '19.
Friedemann, Otto Herman, *w, sp,* Chicago. M.S. (Michigan State C.) '22.
Fry, Elma May, *s, a, w,* Mountain Grove, Mo. S.B. '23.
Gahringer, John Edward, *s,* Wenatchee, Wash. S.B. '23; S.M. '24.
Gaikema, Everett William, *a, w, sp,* Grand Rapids, Mich. A.B. (Hope C.) '22.
Gault, Joseph Telser, *sp,* Chicago. S.B. '24.
Goode, Ralph Clarence, *s, a, w, sp,* Chicago. S.B. (Kenyon C.) '15.
Goodman, Leon Jack, *s, a,* Dubuque, Iowa. S.B. '24.
Gouwens, Willis Eugene, *s,* Chicago. S.B. '18; Ph.D. '23.
Graham, Hugh Cornelius, *s,* Tulsa, Okla. A.B. (U. of Tulsa) '21.
Grauer, Theophil Paul, *s, a, w, sp,* Wausau, Wis. S.B. '20.
Gray, Percival Allen, Jr. *w, sp,* Chicago. S.B. '22; Ph.D. '24.
Green, George Noel, *w, sp,* Coweta, Okla. Ph.G. (Valparaiso U.) '16; Senior C.
Greene, Joseph Major, *s, a,* Chicago. S.B. '23.
Gussin, Harry A., *s, a, w,* Chicago. S.B. '22.
Harmon, George Andrew, *s, a, w,* Rigby, Idaho. A.B. (U. of Utah.) '24.
Harris, Everett Albert, *sp,* Albany, Ala. S.B. (U. of Alabama) '22.
Hayden, Helen Catherine, *s, a, w, sp,* Elgin. S.B. '23.
Heath, Harold John, *s, a, w,* Madison, Wis. S.B. (U. of Wisconsin) '24.
Heckel, Norris Julius, *sp,* Winthrop, Iowa. A.B. (U. of Iowa) '22.
Heitmeyer, Powis Lee, *sp,* Portland, Ore. A.B. (U. of Illinois) '23.
Helgeson, Carl John Edward, *s, a, w,* Chicago. S.B. '18.
Helm, James Otis, *s, a, w,* Columbia, Mo. A.B. (U. of Missouri) '23.
Henderson, Walter R., *s, a, w,* Clearfield, Iowa. A.B. (Tarkio C.) '09.
Hibbs, Donald Kenneth, *s, a, w,* Ames, Iowa. M.S. (Iowa State C.) '21.
Higbee, Arthur Lloyd, *a, w, sp,* Boone, Iowa. S.B. '23.
Hogue, Harold Bertrand, *s, a, w,* Chicago. S.B. '23.
Hogue, William Joel, *a, w, sp,* Monmouth. S.B. (Monmouth C.) '22.
Honl, Leonard Adolph, *a, w, sp,* Lidgerwood, N.D. S.B. '23.
Hork, Jeanette, *a, w, sp,* La Grange. S.B. '24.
Howell, Annette, *s, a,* Chicago. A.B. (Vassar C.) '16; M.A. '18.
Huene, Nevin, *s,* Chicago. S.B. '23.
Ickstadt, Albert, *s, a, w,* Tinley Park. S.B. '23; M.S. '24.
Jackson, Ransome Otha, *w, sp,* Decker, Ind. S.B. '24.
Jenkins, Frank Lukenbill, *sp,* Tolley, N.D. B.A. (U. of North Dakota) '22; S.B. (*ibid.*) '24; S.M. (*ibid.*) '25.

Jenkins, Hilger Perry, *a, w, sp*, Chicago. S.B. '23.
Johnson, Arthur Burnham, *w, sp*, Michigan City, Ind. S.B. '24.
Kasik, Otto, *sp*, Chicago. B.S. (Lewis Institute) '23.
Kenyon, Allan Titsworth, *s*, Aurora. Ph.B. '22.
Kiser, Sara Margaret, *s, a, w*, Chardon, Ohio. S.B. '23.
Kotershall, Edward Frank, *s*, Cleveland, Ohio. A.B. (Adelbert C.) '22.
Kukuraitis, Stella Lucille, *sp*. Chicago. S.B. '24.
Kunde, Margarete Meta H., *s*, Chicago. A.B. (U. of Nebraska) '17; S.B. (*ibid.*) '19; Ph.D. '23.
Ladd, Robert Lelon, *s, a, w*, Ipava. A.B. (Park C.) '20.
Lampman, Harold Heath, *s, a, w, sp*, Clare, Mich. A.B. (Alma C.) '18; A.B. (U. of Wisconsin) '21.
Larsen, Erling Noer, *s, a, w*, Colfax, Wis. A.B. (Luther C.) '22.
Lawrence, Hans Will, *s, a, w*, Madison, Wis. A.B. (U. of Wisconsin) '23; M.S. (*ibid.*) '24.
Lawton, Stanley Edward, *s*, Chicago. S.B. '23.
Leader, Samuel Albert, *s, a*, Chicago. S.B. '21.
Lee, Mary Alden Morgan, *w, sp*, Chicago. A.B. (Bryn Mawr C.) '12; M.A. (Columbia U.) '18.
Levy, Moreno Jona, *s*, Yemin Moshe, Jerusalem, Palestine. S.B. '23.
Lieberthal, Frederick, *a, w, sp*, Chicago. A.B. (Harvard U.) '22.
Lillie, Catherine Crane, *sp*, Chicago. Ph.B. '21.
Lloyd-Jones, Orren, *w, sp*, Chicago. M.S. (U. of Wisconsin) '11; Ph.D. (*ibid.*) '13.
Long, Esmond Ray, *a*, Evanston, A.B. '11; Ph.D. '13.
Luidens, Henry, *s, a, w*, Holland, Mich. S.B. (U. of Wisconsin) '24.
Lundy, Clayton Jackson, *w, sp*, Chicago. S.B. '24; M.S. '25.
MacClatchie, Leslie Keith, *w, sp*, Chicago. S.B. '24.
Malcolmson, Oliver Krause, *a, w, sp*, Chicago. A.B. (U. of Missouri) '17.
Martin, Edward Kilgore, *a, w, sp*, Freedom, Ky. A.B. (Centre C.) '22.
Masten, Mabel G., *s*, Darlington, Wis. S.B. '21.
McCall, Cummings, Herrington, *sp*, Montgomery, Ala (U. of Alabama).
McCarthy, James Edward, *s, a, w*, Beloit, Wis. A.B. (Beloit C.) '22; M.S. '24.
McElligott, Edmund Wright, *s, a, w*, Appleton, Minn. S.B. (U. of North Dakota) '24.
McGuire, Harry Joseph, *s*, Waunakee, Wis. S.B. (U. of Wisconsin) '23.
McKissack, William Milton, *a, w, sp*, Huntsville, Ala. A.B. (U. or Alabama) 23; S.B. (*ibid.*) '24.
Mei, Yi Lin, *s*, Tientsin, China. S.B. '22.
Meyer, Herman Fred, *w, sp*, Altoona, Pa. A.B. (North-Western C.) '22.
Meyer, Howard Maurice, *s, a, w*, Chicago. S.B. '23.
Meyer, Marshall William, *a, w, sp*, Chicago. S.B. '23.
Milbacher, Walter Herman, *s, a, w*, Chicago. S.B. '23.
Miller, George Elmer, *w, sp*, Massillon, Ohio. M.S. (Wooster C.) '11; Ph.D. '19.
Miller, Wilfred Stare, *w, sp*, Decatur. A.B. (James Millikan U.) '19.
Miner, William Richard, *s, a, w*, Frankfort, Ky. A.B. (Georgetown C.) '20.
Mitchell, Bryan Lee, *s*, Indianola, Iowa. A.B. (Simpson C.) '21.
Morrow, Cecil Loveland, *s, a, w*, Wenatchee, Wash. S.B. '23.
Mrazek, Vernon Elmer Leo, *s*, Chicago. S.B. '22.
Neff, Russell Eugene, *sp*, Evansville, Ind. A.B. (Wabash C.) '20.
Neumayr, George Hugo, *sp*. Vermillion, S.D. A.B. (U. of South Dakota) '21.

Newman, Wilfred Ewart, *w, sp*, Spokane, Wash. B.S. (U. of Idaho) '22.
Nicholson, Frederic Max, *s, a, w*, Chicago. Sc.B. '18; Ph.D. '21.
Noble, Barclay Elijah, *s, a, w*, Ames, Iowa. S.B. (Iowa State C.) '22.
Norman, Edith Emilie, *w, sp*, Chicago. Pg.B. (Valparaiso) '16; A.B. (*ibid.*) '17; S.B. '18.
O'Brien, George Francis, *s, a, w*, Hartford, Conn. A.B. (Clark U.) '17.
Olson, Elmer Julius, *a, w, sp*, Chicago. S.B. '23.
Ouda, Priscilla Anna, *sp*, Chicago. S.B. '24.
Parker, Charles Dustin, *a, w, sp*, Chicago. S.B. '21.
Parker, Hubert McKibban, *sp*, Kansas City, Mo. A.B. (U. of Missouri) '23; A.M. '24.
Parowski, Stephen Anthony, *s, a, w*, Chicago. A.B. (Loyola U.) '21; M.A. (*ibid.*) '23.
Pendleton, Walter Raymond, *a, w, sp*, Long Beach, Calif. S.B. '23.
Perlstein, Meyer A., *w, sp*, Chicago. S.B. '24.
Plzak, Louis Frank, *sp*, Cicero. Ph.G. (U. of Illinois) '21; S.B. '24.
Potter, Truman Squire, *a, w, sp*, Chicago. S.B. '22.
Powdermaker, Florence, *s, a, w*, Baltimore, Md. S.B. (Pennsylvania State C.) '15; Ph.D. (Johns Hopkins U.) '21.
Power, Frank Kenneth, *s, a, w*, Salem, Oregon. A.B. (U. of Oregon) '22.
Purdum, Frederick Paine, *s*, Butler, Pa. S.B. '23.
Rider, Jeanette Leszczynski, *s, a*, Chicago. S.B. '23.
Rogers, James Creighton Thomas, *a, w, sp*, Moline. S.B. (Knox C.) '20.
Ryerson, Paul Martin, *a, w, sp*, Chicago. S.B. '23.
Schacht, Roland John, *a, w, sp*, Racine, Wis. S.B. (Beloit C.) '21.
Seyfarth, Mac Harper, *a, w, sp*, Freeport. S.B. '23; M.S. '24.
Shannon, Charles Edward, *s, a*, Chicago. S.B. '23.
Shaw, James Wallace, *s, a, w*, Topeka, Kansas. A.B. (U. of Kansas) '20; M.S. '25.
Shumway, Charles Moore, *a, w, sp*, Dallas, Texas. A.B. (Baylor U.) '21; S.B. (U. of Oklahoma) '24.
Sloan, Leigh Edmund, *a, w, sp*, Kalispell, Mont. S.B. '21.
Smith, Laurel Irene, *sp*, Los Angeles, Calif. A.B. (Western Reserve) '21; S.B. '24.
Smith, Theodore Jonathan, *a, w, sp*, Tomah, Wis. S.B. (U. of Wisconsin) '24.
Spelbring, Paul Greenwood, *s, a, w*, Silver City, Iowa. A.B. (Knox C.) '18.
Spencer, William L., *a, w, sp*, Gilman, S.B. '23.
Sperry, Frederick Lewis, *s, a, w*, River Forest. A.B. (U. of Wisconsin) '21.
Stericker, George Black, *w, sp*, Springfield. B.Litt. (Princeton U.) '17.
Stretcher, Robert H., *w. sp*, Yellow Springs, Ohio. A.B. (Miami U.) '20.
Sudan, Archer Chester, *s*, Chicago. S.B. '22; M.S. '23.
Sumner, Willard Carlyle, *s, a, w*, Madison, Wis. A.B. (U. of Wisconsin) '24.
Taylor, Van William, *s, a, w*, Campbell, Mo. A.B. (U. of Missouri) '24.
Tetrev, Jaroslav, *w, sp*, Chicago. S.B. '24.
Walker, Howard McKinley, *a, w, sp*, Madison, Wis. S.B. (U. of Wisconsin) '24.
Waner, Leo William, *s*, Florence, Kansas. S.B. '23.
Weed, Linton Gilmore, *s, a, w*, Phelps, Wis. S.B. (U. of Wisconsin) '18.
Weinstein, Seymour, *s, a, w*, Chicago. S.B. '23.
Whitmer, Ralph Glenn, *s, a, w*, Madison, Wis. S.B. (Cornell U.) '12; M.S. (U. of Wisconsin) '24.
Willems, Jacob Daniel, *a, w, sp*, Chicago. S.B. '22.
Woodruff, Lewis Wheeler, *a, w, sp*, Joliet, S.B. (Dartmouth C.) '23.
Woods, Daniel Lindley, *sp*, Los Angeles, Calif. (U. of Wisconsin).
Zeisler, Ernest Bloomfield, *w, sp*, Chicago. S.B. '19; Ph.D. '22.

SPECIAL STUDENTS TAKING MEDICAL COURSES ON THE QUADRANGLES, SUMMER, AUTUMN, WINTER, OR SPRING QUARTERS, 1925–26

Anderson, Bernyce Ninereh
Anderson, Sydney
Arenz, Dorothy
Arnal, Paul John
Atcheson, Bellfield
Ayres, James Garett
Bailey, John Hays
Barfield, Blake
Barnes, Marion
Bascom, Kellogg Finley
Bates, Ross Waldo
Beckley, Ruth
Bell Kenneth Rush
Bender, John Alpheus
Benson, Simon
Berg, George Oscar
Bjelland, Paul A.
Blanck, Earl Elmer
Boder, David Pablo
Bonus, Harrietta Margaret
Bourn, Janet
Bowen, Sarah
Bringas, Irineo Blanco
Bucher, Fritz Paul
Burton, Helen
Callahan, James Joseph
Cameron, Gladys
Cannon, George Dows
Carmody, James Patrick
Carswell, James
Cartland, George Francis
Chambers, Eleanor
Christoph, Carl Henry
Cikrit, Methodius Francis
Ciufia, Cano
Clark, Leonard Bertrand
Clements, Leroy
Cloke, John Benjamin
Colgin, William Edward
Collier, Thomas Wootten
Connell, Ise Lee
Conrad, Justin L.
Counter, Clement
Crandall, Lathan Augustus
DaCosta, Esther Ventura Noah
Darrow, Chester William
Day, Lois
DeCou, Louis Fletcher
Denninger, Henry Stearn
DeYoung, Clarence R.
Dieter, Clarence Dewey
Donnelly, Joseph Lawrence
Donovan, Paul B.
Douglas, Clara Jane
Dowd, Leslie Willard
Downing, M. Elizabeth
Dragoo, Samuel Vaughn
Eastman, Irene Margaret
Edahl, Edwin Waldamar
Edelstein, Rudolph
Embree, Harland Caleb
Faletti, Anthony John
Farbar, Marian
Fearrington, James Cornelius Pass
Feinberg, Herman
Field, John Wesley
Fierbaugh, Margaret
Fitts, Lucile Rose
Fitzpatrick, John Chisholm
Flanagan, Edwin Joseph
Fleer, Emma Albertine Mathilde
Galbraith, Freeman Dent
Gibson, William Donald
Gist, Elizabeth Colver
Greenwald, Jack
Grollman, Arthur
Gustavson, Reuben Gilbert
Haag, Harvey Bernhardt
Hallman, George Victor
Halloin, Louis Joseph, Jr.
Hammond, Edith S.
Hanke, Martin Edward
Hanus, George
Hardt, Dorothy
Harkness, Raymond M.
Hatch, Robert Willis
Helmer, Oscar Marvin
Hepler, Opal

Hoffman, William Samuel
Hogan, Marshall Davis
Holkeboer, Henry David
Homme, Owen H.
Hotz, Carl J. H.
Howard, Helen
Hruby, Frank Edward
Huff, John
Hyatt, Rupert
Jacobson, Moses Abraham
Johnson, Paul Thomas
Jones, Beatrice Olwen
Jones, Harry LeRoy
Jonker, William John
Jurica, Edmund Joseph
Kellogg, Howard Butters
Kendall, Isaac Newton
Kernwein, Graham
Kocsy, Semen
Lambert, Claude Needham
Landwer, Milton Frederick
Lange, William Frederick
Larson, Goyt Orlando
Laurel, Alberta Garcia
Lauten, William Fred
Lee, Joseph Charles
Leviton, Abe
Levy, Abraham Juda
Lidowsky, Betty
List, Elmer
Loveless, Alexander Watt Thomson
Lund, Vivian Lynore
Macagba, Rufino Nisperos
Marks, Joseph Henry
Meadows, Mary
Mercada, Monserrate
Michael, Amos Chase
Michener, John Morrison
Miles, John Mathew
Milkwick, Erling Lereim
Miller, Dwight Franstone
Miller, Mary Esther
Miller, Pleasant Thomas
McCowan, Viana B.
McKellar, Herbert Elwin
McKinney, Roscoe Lewis
McNemer, Phil Hamilton
Muskat, Isidore Elkanon
Neethling, Hendrik Ludolph
Nejdl, Lambert
Newman, Edna S.
Nixon, Robert Harris
Ockes, Florence Lydia
Ohsman, Edward
O'Neil, Alfred Eugene
Oslund, Robert
Pankratz, David Schultz
Pattengale, Nell Treva
Paynter, Harrison Samuel
Plaugher, Lee Roy
Ploche, Leon Reginald
Plummer, Beulah
Popp, Henry William
Porter, Howard
Prince, Arthur Warren
Pugsley, Matthew Corell
Radest, Louis John
Rappeport, Arthur
Redgwick, John Philbrook
Rice, Hugh Arthur
Riddle, Charles Dayton
Ridgway, Catherine
Roberts, Richard Griffith
Robinson, Una
Rogers, John C.
Rosi, Alcide Louis
Rowland, Helen
Runyon, Ernest Hocking
Rupich, John
Sabath, Donald Joseph
Salmon, David Lee
Sands, Lila
Sargent, Gordon Lee
Saunders, Felix
Schachter, Rubin Joseph
Schell, Harry Overton
Schmitt, Richard K.
Selberg, Edith
Sharer, Robert F.
Shaver, Edna H.
Shelton, Bertram Metharel
Shpiner, Leonard
Shroba, Raymond Victor
Skinner, Clifford W.
Skow, John D.
Stephen, Alice

Still, Eugene Updyke
Stillman, Hannah A.
Stuck, Florence
Stucker, Fred Joseph
Sturgeon, William Elias
Swain, Julia E.
Swann, Elmer Taylor
Swenson, Rudolph Emil
Tackaberry, Mildred R.
Tallman, Ralph LaRue
Teschan, Rudolph, Jr.
Thieda, Arthur Alexander
Tutunjian, Khacher Hovsep
Urist, Martin Jerome
Van Cleave, Charles Durward
Van Zante, Peter
Verder, Adak Elizabeth
Verrett, Louise F.
Vilas, Elizabeth
Wait, Bernice C.
Watt, Lucile
Warnock, Fannybell
Weedon, Frederick Renfree
Weininger, Benjamin Ide
Wen, I. Chuan
White, Walter
Windsor, Altan S.
Wittmayer, Earl E.
Wu, Yieng Swe
Yabe, Tadashi
Yuan, Thomas L.
Ziedman, Irving

UNCLASSIFIED STUDENTS TAKING CLINICAL COURSES

SENIORS

Backman, Kristjan, J., *s*, Clarkleigh, Manitoba, Canada.
Dubs, Jesse James, *s*, *a*, *w*, *sp*, Chicago.
Holleman, Clarence H., *a*, Chicago.
Stewart, Ellen, *s*, *a*, *w*, Chicago.
Yampolsky, R. Miriam, *a*, *w*, Chicago.

JUNIORS

Berardi, James B., *s*, Chicago.
Bond, George Waldo, *s*, Columbus, Ohio.
Davies, Morgan C., *s*, Columbus, Ohio.
Dawley, Walter A., *s*, De Smet, South Dakota.
Fink, Janet E. *sp*, Chicago.
Johnson, Clarence A., *w*, Chicago.
Ketchum, Philip V., *s*, Des Moines, Iowa.
Levy, Mayer H., *s*, Chicago.
Little, Z. J., *s*, Chicago.
Monroe, Marion, *sp*, Chicago.
Monsch, Helen, *a*, Chicago.
Powelson, Myron H., *s*, Columbus, Ohio.
Reynolds, Benjamin J. C., *s*, *a*, Chicago.
Rosenberg, Robert, *s*, Chicago.
Sampson, Pearl, *s*, Creston, Iowa.
Van Buren, E. Emory, *s*, Chicago.
Willey, Howard E., *a*, Lake Mills, Wisconsin
Wilson, J. A., *s*, Appleton, Wisconsin.
Yampolsky, R. Miriam, *s*, Chicago.
Young, E. Gordon, *s*, Halifax, N.S., Canada.

POST-GRADUATE STUDENTS

Blackburn, Paul M., *s*, Chicago.
Chainski, Edward, *sp*, Chicago.
Chinn, Clarence C., *w*, *sp*, Honolulu, T.H.
Cohen, Abram Irving, *s*, *a*, Roxbury, Massachusetts.
Fink, Marion Shelley, *s*, *a*, Chicago.
Griffey, Edward Waddy, *w*, *sp*, Chicago.
Homme, Owen H., *s*, *a*, *w*, Echo, Minnesota.
Kneussl, Maximilian B, *w*, *sp*, Ottawa, Illinois.
MacIntyre, George F., *a*, *w*, *sp*, Wilmington, Illinois.
Miller, Dwight F., *s*, *a*, *w*, *sp*, Chicago.
Moore, Paul M., *sp*, Chicago.
Priessmann, Frank A., *s*, *a*, Mechanicsville, Iowa.
Rapp, Edwin W., *w*, Chicago.
Remington, Paul A., *w*, *sp*, Tacoma, Washington.
Salmon, David L., *s*, *a*, *w*, *sp*, Chicago.
Sinner, James E., *a*, *w*, *sp*, Chicago.
Stockham, Willard W., *a*, *w*, Chicago.
Watkins, Richard W., *w*, *sp*, Chicago.
Weller, Charles G., *s*, *a*, Chicago.
Winn, William R., *s*, *a*, *w*, Columbus, Ohio.

SUMMARY OF ATTENDANCE FOR THE YEAR 1925–26

	Men	Women	Total
First- and second-year, less duplicates	186	21	207
Third-year, less duplicates	132	21	153
Fourth-year, less duplicates	162	20	182
Total, less duplicates	480	62	542
Special students taking courses in the fundamental branches, less duplicates	168	48	216
Practitioners and unclassified students taking clinical courses	18	6	24
Post-graduate students taking clinical courses	20		20
Total	686	116	802